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PHARYNGEAL INSUFFLATION, A SIMPLE METHOD OF ARTIFICIAL RESPIRATION

A PRELIMINARY NOTE *

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There are numerous occasions in the practice of surgery and internal medicine, as well as in the occurrences of accidents and intoxication in modern industrial life, in which successful artificial respiration would doubtlessly prove life-saving; the development of a simple but efficient method is therefore certainly a crying need. The well-known Sylvester and the Schäfer methods of artificial respiration are simple enough, but they are far from being reliably efficient. I shall not discuss here their merits. The usual method of artificial respiration of the physiologic laboratories is, on the other hand, efficient enough, but it requires tracheotomy and some surgical training to perform it. The method of intratracheal insufflation of Meltzer and Auer requires no surgical procedure and is, as I may emphatically state, absolutely efficient, but it requires the aid of a medical man, and of one who is already trained in the introduction of the intratracheal tube, and it requires also some sort of apparatus to perform the insufflation safely and successfully; it is highly probable that in most of the emergency cases neither will be at hand.

Serving on the Commission on Resuscitation from Electric Shock, appointed by the American Medical Association,[1] I became interested in this problem and began to study its solution experimentally. I now have reason to believe that I have already attained very promising results. Without discussing the question whether the method which I have developed should and would be recommended by the commission as the one which promises the best results, it seemed to me advisable to present it early to the medical profession. The method was studied and found efficient on four species of animals. But its real usefulness will be established only after standing the test in its application on human beings, and the final judgment will have to come from the physician and not from the experimenter in the laboratory.

The method in its simplest form consists in (1) the introduction of a catheter into the pharynx; (2) pulling out of the tongue; (3) pressing the suprahyoid region against the roof of the mouth; (4) putting the abdomen under constant pressure, and (5) connecting the catheter with bellows.

When, during a compression of the bellows, air is driven into the pharynx, it can escape through the mouth, the nose, into the stomach and into the lungs. The ready return of the insufflated air through the mouth is restricted in this method by pressing the fleshy part of the tongue against the roof of the mouth. The escape through the nose is somewhat restricted, partly by the pressure against the roof of the mouth which also raises the soft palate, and partly by the presence of the catheter in the pharynx which also assists in raising the soft palate as well as the uvula. The escape into the stomach may occur readily, if the air-pressure within the pharynx caused by the insufflation is considerable and the pressure exerted on the suprahyoid region is so strong as to prevent completely, or restrict excessively, the escape of the surplus air through the mouth. But this escape into the stomach can be entirely prevented, or restricted to a harmless minimum, by putting the abdomen under sufficient external pressure. Under these circumstances the surplus air in the pharynx during each insufflation readily enters into the lungs in a quantity and with a force sufficient to perform an efficient inspiration which, on account of the pressure on the abdomen, consists, in this case, chiefly in distention of the thorax with but little descension of the diaphragm. The heaving of the chest serves, in this case, as an indicator of the extent of inspiration. The latter, as may be pointed out here, is controlled by the degree of pressure exerted on the suprahyoid region, that is, the more pressure is here exerted, which means less escape of air through the mouth, the stronger is the inspiration. The expiration is accomplished during the intermission of the insufflation, as in normal respiration, by the elasticity of the thoracic wall, striving to return to its normal equilibrium.

The method just described, the efficiency of which has been studied by me experimentally, contains nothing which even a layman could not grasp and perform, and it requires of apparatus only such simple contrivances as bellows, a catheter and some load for the abdomen, simple contrivances which could be kept in readiness at places where emergencies under discussion are liable to happen. In another series of experiments, however, I have studied the efficiency of this method, with the addition of another element, namely, a tube introduced into the stomach. Under these conditions no pressure on the abdomen is necessary, because all surplus air which may enter during insufflation through the esophagus alongside the tube into the stomach, escapes readily outside through the stomach-tube. The stomach-tube thus prevents the accumulation of air in the stomach and serves at the same time as a safety-valve for the surplus of air-pressure within the pharynx. The experiments have shown, further, that the rhythmic entrance of air into the stomach, instead of pressing the diaphragm

* From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.

1. See THE JOURNAL A. M. A., Jan. 27, 1912, p. 282.

headward, pushes the stomach and with it the diaphragm downward and thus assists indirectly in the inspiratory movement. Under this method the air entering the lungs is well capable of pushing the diaphragm downward; the thoracic frame becomes therefore less distended and the heaving of the chest is in this method less noticeable than in the one without the stomach-tube. It must be mentioned that the simultaneous presence of two tubes in the pharynx seems to be the means, in nearly all cases, of completely preventing the escape of the insufflated air through the nose.

The methods have been developed, and sufficiently tested by experimentation on four species of animals: dogs, cats, rabbits and two monkeys. The most extensive series of experiments were carried out on dogs and cats. Since the chief object of this study was to find a method of providing efficient artificial respiration, it was best to study the efficiency of the methods on animals in which the normal respiration was completely abolished, while other functions were but little impaired. The experiments were therefore carried out chiefly on curarized animals, all of which received morphin and some receiving also ether. Without entering on details, I may state here, briefly, that in all animals, without exception, either of the two methods was all sufficient to keep up the lives of completely curarized animals for many hours in a perfectly normal manner. In a good many experiments the thorax was widely opened transversely and the heart freely exposed. No shock was observed in any case. In several instances the artificial respiration was discontinued as long as from six to seven minutes, until the pulse disappeared completely, the ventricles showing only a faint, inefficient beat. Nevertheless, on restoring the connections for artificial respiration, heart and circulation were restored to normal within from one and a half to two minutes. Several animals were kept under the influence of curare for several hours, but were otherwise not operated on; they were permitted to recover from the influence of curare and remained perfectly well. These methods proved to be sufficient to keep up the respiration in cases also in which the medulla oblongata was completely destroyed or after complete abolition of respiration by intramuscular injection of large doses of magnesium sulphate.

It was further established that by means of pharyngeal insufflation animals were brought easily and profoundly under the influence of ether anesthesia. When the profound anesthesia continued for some time, the spontaneous respiration disappeared completely. When now the ether was discontinued, the animal remained, sometimes for half an hour and longer, without any spontaneous respiration; the heart nevertheless continued to beat regularly and improve rapidly in efficiency. Here again the pharyngeal insufflation proved to be an efficient method of artificial respiration and life-saving.

I have made, also, a few experiments on animals which were killed purposely either by etherization or by illuminating gas. In these cases the pharyngeal insufflation was not instituted until all traces of respiration and heart-beats disappeared. So far, only two recoveries can be recorded. No serious attempt, however, has yet been made to study those problems in a proper manner. In the question of resuscitation from these poisonings, other problems are involved, with which we are not concerned for the present.

My experimental studies convinced me that by means of these methods of pharyngeal insufflation, artificial respiration can be kept up efficiently, and animals will be surely resuscitated from a purely respiratory death. Seeing no reason whatsoever why these methods should fail to accomplish similar results in human beings, I submit to physicians and surgeons my request to test the pharyngeal methods, as described here, on human beings wherever there is any need of artificial respiration; the opportunities will not be lacking. There are cases in surgery on the brain, the thorax, or on other parts of the body, in which the respiration gives out, while the heart is still beating. There are cases of respiratory insufficiency also in internal medicine, for instance in postdiphtheritic paralysis, in poliomyelitis, or in some cases of eclampsia or coma. And there are the poisonings by morphin, illuminating gas, etc., or the shocks in accidents. The pharyngeal insufflation, when carried out with care, can certainly do no harm; its execution is very simple, and it ought to be tested in any of these cases. Furthermore, I can see no objection to its being tested immediately after death from any cause whatsoever. There is always the possibility that the actual cause of death might be, in one case or another, especially in acute cases, only of a temporary nature, so that efficient artificial respiration might assist in temporizing and thus prove occasionally life-saving indeed. Such possibilities, though they may be realized only once in a thousand times, justify the making of such an attempt in each and every instance of death. It is thus that the efficiency of pharyngeal insufflation, as a means of artificial respiration in human beings, could be tested early and reliably. It is hardly necessary to point out that it would not be a fair test of the method to try it after rigor mortis had set in.

To facilitate the application of the method, I shall try to describe concisely, here, the manner of its application as I believe it ought to be used in human beings. The tube to be inserted into the pharynx should be a 15 American (or 22 French) catheter. If there is no catheter at hand, any tube of a similar diameter will serve the purpose, but it ought to possess sufficient resistance and should have at least one fair-sized lateral opening near its end. The catheter should be introduced into the pharynx about 5½ inches from the teeth. The tongue should be pulled out and held by a tongue-forceps, the continuation of which is, however, not indispensable, since the bandage will later keep the tongue in proper position. Then a pad, about 1 inch long and 1 inch thick, made of gauze, cotton or any other material, should be placed under the chin on the suprahyoid region and pressed upward by means of a bandage or a folded handkerchief tied at first only moderately firmly over the head. By the suprahyoid region is meant the part of the submental region which is nearest to the hyoid region; pressure on this part presses the middle part of the tongue against the posterior part of the hard palate. The bandage over the head should be tied about over the posterior part of the parietal bones.

Now some weight should be placed on the abdomen. In unconscious individuals the abdominal wall offers no resistance and a load of from 12 to 13 pounds will be sufficient to exert the necessary pressure. A weight of from 6 to 7 pounds was sufficient for fairly large dogs. The pressure on the abdomen offers the further advantage that it drives the blood from the abdominal viscera to the heart and to the brain and the medulla where it can do greater service.

The bellows, which need not be of very large size, are now connected with the catheter and the manipula-

tion may begin. Care should be taken that at the beginning the compression should not be made too forcibly and rapidly and not oftener than ten to twelve times per minute. If each compression causes only a slight heaving of the chest the bandage over the head should be tightened and if the heaving appears to be too strong the bandage should be loosened correspondingly. Here, as in the method of intratracheal insufflation, too much pressure and careless handling may do harm. The compression should never be made so tight as to make the escape of air through the mouth impossible or very difficult.

The handling of the bellows is often fatiguing; but the effort can be greatly reduced by fastening one handle by means of a screw-clamp to a table and making the other handle several feet long; the working of the bellows is then very easy.

The introduction of a tube into the stomach permits the handling of the insufflation with greater force, more efficiency, and even greater safety. In some cases the use of the stomach-tube might be even indispensable, when, for one reason or another, no weight can be placed on the abdomen. The stomach-tube should not be too small in diameter, should have two lateral openings near its end and should be introduced at least sixteen inches from the teeth. It should be introduced before the pharyngeal tube. There is no objection to having both devices together—the stomach-tube and the weight on the stomach.

I shall add that in my experiments the insufflation was just as efficient when the animal was lying on the stomach with the head hanging downward. Under these circumstances it is, however, necessary to make a provision for keeping the tubes in place; otherwise they might slip out.

In the foregoing the bellows were relied on as a source of pressure for the insufflation. It is evident, however, that any other source of interrupted or continuous pressure could be employed. It is especially worth while to mention here that in the absence of bellows an oxygen tank could be used for this purpose. It is necessary only to insert a T tube in the connection between the oxygen tank and the catheter. An attendant should then close and open the vertical, open branch of that tube about twelve times per minute; the closing will cause an inspiration and the opening an expiration. The closure should last about two and the opening about three seconds. In order to prevent too much pressure it is advisable to introduce another T tube which should be connected with a safety valve. The latter is prepared in the easiest and simplest manner by having mercury in a double-necked bottle or a bottle closed with a stopper having two perforations. Through one of these openings a graded tube is introduced and submerged about 15 to 20 mm. under the surface of the mercury. That means that the oxygen will never enter the pharynx with a pressure higher than 15 or 20 mm. mercury.

Finally, it is evident that the pharyngeal insufflation ought to be capable of rendering good service in the asphyxia of the new-born. After introducing proper-sized catheters into the stomach and the pharynx and after applying properly a bandage around chin and head, the pharyngeal catheter should be connected simply with a rubber bulb of an atomizer and the artificial respiration can be started. This simple arrangement will probaby be sufficient also for the resuscitation of babies 1 or 2 years old.

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THE PATHOGENESIS OF PLACENTAL SYPHILIS

A PRELIMINARY REPORT *

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Through the Wassermann reaction, the discovery of the *Spirochæta pallida*, the Levaditi impregnation method of staining, and the introduction of the dark-stage illumination, the whole question relative to the pathogenesis of inherited syphilis has received new light.

As McIntosh and Fildes remark, on anatomic grounds it is improbable that the father could directly infect the fetus *in utero*. The strongest evidence in favor of the view that the ova can be infected was the finding of spirochetes in the ova of congenital syphilitic infants, by Levaditi, Sauvage, McIntosh, Hoffman and Wolters.

In forming a true valuation of this observation, one must remember that the spirochetes are found in almost every tissue, in children dead from syphilis, on account of these organisms being very numerous.

Neisser finds the testicle a harbor for the spirochetes in animals, but all his inoculations with human semen were negative. On the other hand, Finger and Landsteiner succeeded twice in inoculating animals with human syphilitic semen. One of the men from whom the semen was obtained was suffering from an orchitis; in the other case, it is highly probable that the semen may have picked up the spirochetes from a patch on the penis, in the urethra or in some other accidental way. Unless there be syphilitic disease of the testicle, which is rare, or unless the semen picks up spirochetes *en route*, I do not see how it can contain them, although Uhlenhuth and Mulzer have lately had success in demonstrating them in semen by the inoculation of rabbit's testicle.

If the semen happens to contain the organism, it is not probable that it would enter the spermatozoa on account of its size and motility. Metchnikoff dismisses the subject by remarking that there is no reason to suppose that this microbe infects the spermatozoa; it is more probable that it is found free in the surrounding fluid. It is to the serologist that we owe the final solution of the whole question. The literature on this subject, as in all other branches of modern medicine, is accumulating very rapidly, through numerous and enthusiastic investigators.

It is not necessary here to give a summary of this work, as several most excellent reviews of the subject have already appeared.[1] The whole solution of the problem lies in the fact that all these investigators find that the large majority of mothers, apparently healthy, who give birth to syphilitic children, show a continuous possitive Wassermann reaction.

It has been claimed that the Wassermann body could pass from the fetus to the mother, and thus produce in her a positive reaction; but this point is untenable because in the large majority of such cases, the reaction remains positive long after delivery, giving sufficient time for the disappearance of this body were not spirochetes present in the mother. We must admit, from these convincing investigations, that the mother has syphilis; but how did she receive her inoculation? From the embryo, or through epithelial inoculation—the usual route?

* From the Barnard Free Skin and Cancer Hospital.
* Read before the St. Louis Medical Society, Feb. 24, 1912.

1. Ehrenfest: Interstate Med. Jour., 1910, xvii, 690; Stein: Post-Graduate, 1911, xxvi, 963.

We have seen that the findings, in favor of the paternal inoculation of the embryo, do not at present seem probable; yet we cannot dogmatically dismiss the theory, for we know that the semen does, in some instances, contain spirochetes. Hence we await, with eagerness, confirmation of Uhlenhuth and Mulzer's work.

Undoubtedly, under certain circumstances, the spirochetes can live in a host without causing much interference; therefore it is not impossible that they may live in the growing embryo in an innocuous state. Rous' experiments with his filtrate of hen sarcoma, which he injects into eggs and hatches a sarcoma chick, is suggestive.

If the embryo, thus inoculated with syphilis, grows, it could, of course, infect the mother through the uteroplacental circulation.

Subcutaneous and intravenous inoculations of syphilis have been uniformly unsuccessful. Neisser tried subcutaneous inoculations fifty-one times, and intravenous fifteen times, without success; but, in congenital syphilis, we have an exception to the curious rule remarked by all investigators in clinical and experimental syphilis—namely, that the organisms seem to need an epithelial entrance, or epithelial culture for a short time, until they are ready to penetrate or invade the deeper tissue, and the general economy.

It seems to me that we must await further investigation before we can decide that the mother was not inoculated through her syphilitic child; though, in my opinion, it does not seem probable that this occurs. I cannot believe, with Trinchese, that the spirochetes enter the uterus with the semen and penetrate the endometrium, as I have remarked that this is contrary to experimental inoculation experience.

A few words in relation to Profeta's class of cases. We now know that a large percentage of macerated fetuses are syphilitic. Baisch found that 80 per cent. contained spirochetes, which is about the average finding of other investigators.

Habitual abortions are due to syphilis in a large percentage of cases. We must admit that some children are born of syphilitic mothers and escape the disease; this may be due to the fact that no organisms happen to enter the circulation and land in the placenta during conception. But this is still a mooted point, and should not be decided dogmatically, as such children must be watched for years—probably until puberty—before one can say that they are free.

A mother may be mildly syphilitic, may have a localized syphilis, or the microorganisms may be isolated in the bone-marrow or lymph-nodes, and not in the circulation; therefore the organisms are not in a position to infect the placental tissues. On the other hand, children may be latently syphilitic, and still present a negative Wassermann reaction.

Some of these healthy children at first produce a positive Wassermann, since the Wassermann body may cross the placenta, to the child, as pointed out by Boas and others.

Again, an antibody may also cross and be sufficient to hold the spirochetes from causing active symptoms in the child for some time, which seems to explain why, in the majority of cases, the symptoms of syphilis are delayed for some days or weeks after the child's birth.

Many of these investigations seem conflicting in detail; hence, to understand them properly, one must look at syphilis in the broadest possible way, and not be hampered by set clinical ideas that have been handed down to us through the ages. Modern science is always branching out into new channels of enlightenment; and at the present time of great laboratories, hospitals and thousands of investigators, one must keep one's mind ever open, and be broad enough to heed the results of new investigations.

Syphilis, from my own clinical observations covering eighteen years, and from the investigations of others, appears to me in the following way: The spirochete enters the animal body (man, for instance) as any other similar organism of its kind would enter an animal body; and, finally, through growth and adaptation, reaches the circulation and is thus carried to all organs in metastatic groups.

In some tissues, where the chemical conditions are suited for it, it proliferates more or less rapidly, depending on the chemical and physical environment; and probably causes a lesion, from which clinical symptoms may or may not be produced. Where it does not find proper chemical affinities it ceases to propagate and dies.

The resulting chain of symptoms from a certain infection largely depends on the chemotropism of that particular strain of spirochete and its source. If it is a strain with neurotropic affinities, then nervous phenomena are more apt to result than if the strain had tropic affinities for the skin, bone or other tissues. In most instances, the human system has learned, through the course of several hundred years, to overcome the pathogenic action of the organism, just as other animals—rats, fowl, deer and mice — have learned to change certain spirochetes into normal or harmless parasites.

Such organisms are often found in the blood and lymph-nodes of perfectly healthy lower animals. Now and then these organisms become pathogenic to an animal of this group; and such a spirochete, when conveyed to a virgin race of animals, may kill many generations, until the virgin races become themselves immune through cell-education and heredity. In the main details, syphilis thus appears to me.

All will admit that in the majority of cases, after the first two florid stages, the symptoms of syphilis disappear from the surface with or without treatment. A few of the infected may subsequently die of aortitis, tabes, paresis, gumma of liver, brain gumma, etc., but comparatively few come to this stage, the large majority remaining well throughout life. Nevertheless they are syphilitic, and probably will always be syphilitic, as the spirochetes remain in their bodies, hidden either in the bone-marrow or in the lymph-nodes, whence they may wander into the circulation at certain times. Those who have syphilis may have spirochetes free in their blood-stream at any time. I admit that the organisms are difficult to find in the blood, but successful inoculations from it have been made by Hoffman and others. The organisms may enter the blood-stream at any time, and unless they happen to find a nidus for pathogenic action, no disturbance will likely ensue, and, therefore, not enough Wassermann substance will be formed to cause a reaction.

Preliminary vascular disturbance is necessary in the late or latent stage of syphilis before a syphilitic lesion can be formed. How else can one explain simple abrasions of the leg or elbow, for instance, which become typical syphilitic ulcers? Were the organisms at that point before the abrasion occurred? More probably they were brought there by the blood-stream as an incident in the normal course of events. The vessels having been changed by the trauma, a purely physicochemical occurrence takes place; the spirochetes lodge there, and find

chemical conditions propitious for their growth in the natural disturbance of the normal equilibrium between the tissue and themselves.

Some preliminary non-syphilitic changes are necessary in the formation of all late lesions of syphilis. The seborrheic syphilid, the palmar syphilids, the syphilids of the mouth, may be taken as illustrations of this observation.

Syphilis is a blood-borne disease; how else could one explain the secondary lesions? There are many theories explanatory of late syphilitic lesions—Levaditi's disturbance of local immunity, Neisser's *Umstimmung*, anaphylaxis, etc.

But how do the spirochetes reach the areas of tertiary disturbance? They must be carried by the blood, and through mechanical or chemical influences stop at a certain point, proliferate, and thus cause a lesion of more or less extent. So it is with the pathogenesis of congenital syphilis. The woman is, in all probability, latently syphilitic; she has in her general circulation, at times, live, free spirochetes which are only occasionally pathogenic to her organism. She may have syphilitic scars in her vessels, or possibly a struggling colony in her aorta. The free spirochetes are carried by the circulation into the growing or forming placenta, the vessels of which being numerous or possibly abnormal present areas for them to lodge and propagate. At any rate, there is growing tissue possibly with less resistance but more vascularity. They seek mechanically the sides of the vessels; a colony is formed, and this is most frequently found on the embryonic side.

In talking this theory over with Dr. Leo Loeb, he suggested to me the following explanation: Two factors may possibly be suggested as responsible for the greater liability of the placenta to show syphilitic lesions. In the first place the placenta, being a mixed organ, partly of maternal, partly of embryonal origin, is probably only to a less extent under the influence of those substances originating in the infected mother, which cause at least a partial immunity of the maternal lesions. Secondly, it is possible that certain tissues in process of active proliferation differ in their cell-metabolism to such an extent that they do not respond to certain stimuli as effectively as do normally functionating quiescent tissues.

It is extremely rare to find spirochetes in the decidua, but they are frequently found on the embryonic side. The various pathologic conditions of the placenta depend on the location of the colonies. The organisms find in the placenta, as elsewhere, the best media for growth about the vessels.

If an early vigorous strain from a fresh syphilis in the parent is planted, an early death of the fetus will generally occur; as the strain becomes more attenuated under the influences of the immunizing bodies of the parent (an older syphilis), syphilitic children or latent syphilitic children may be born; or the infection of the fetus may be from so mild a strain that it may be entirely stamped out by the hereditary immunizing influences of the child.

It is a clinical rule of long standing that the older the syphilis in the parent, the less likelihood there is for infection of the child, which is due to the fact that such a host contains less spirochetes, and that those she does harbor are less virulent. We must mention, however, that Neisser has shown that experimental inoculations from tertiary lesions run the same course in a chimpanzee as from an earlier lesion; while others have shown that inoculations from retrograding secondary lesions give variable and uncertain results. These two facts only illustrate the difference in the virility of the organisms *in situ*.

Mercury causes the spirochetes to disappear from the blood, and is therefore the greatest safeguard against maternal infection. Whether it attacks the organism in the marrow or lymph, where they are no doubt harbored in latent syphilis, is doubtful.

To me the theory that the latent syphilitic mother is a spirochete-carrier of organisms which in such cases appear, now and then, in the blood-stream, and are likely to settle at points of physiologic or pathologic disturbance, explains many, if not all the phenomena of parental syphilis and also tertiary syphilis. Together with this must go the recognition of the fact that the spirochete is an organism which can inhabit a host for years, without causing disturbance. It is interesting in this connection to note the results of the observations of Gaylord and Tyzzer in spirochetes in relation to cancer, that in mice and rats harboring spirochetes, when a new growth occurs in them, it is frequently filled with the organisms.

Now that Noguchi has developed a proper culture method for the spirochete, it will probably be much easier to demonstrate it in suspected fluids and tissues.

The testicle of the rabbit has heretofore been the cheapest and best medium for such demonstration, as higher animals are too expensive.

The spirochetes are very difficult to find in the placenta; writers report many failures, but cultural methods will be of great assistance in clearing up many pathologic placental conditions. It is highly possible that many appearances in the placenta, attributed to syphilis, are not this disease. Pregnant women may be carriers in this way of other organisms besides the spirochete.

There are spirochete-carriers in whom the organism is innocuous, just as there are typhoid meningococcus and diphtheria carriers. Clinical observations and many experimental investigations along other lines seem, at least, partially to confirm this fact.

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THE STUDY OF MIND IN MEDICAL EDUCATION *

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It is a truism that it is frequently the most obvious thing, the thing nearest at hand, that is overlooked and not seen. For generations the physician has been practicing his art, and only here and there has one arisen who has given any considerable thought to the plain fact that man is a thinking, feeling organism. And while in a practical way the good physician undoubtedly learns empirically to deal with his patients as thinking organisms, still in all the process of medical education there is little effort made to inculcate this fact into the mind of the student, much less to endeavor to teach him about the organization of the mind, its functions, and the way in which it reacts to disease as he is taught these things about every organ in the body.

The reason for this lack of appreciation of the mental in life is not altogether easy to arrive at. My conception of the reason is that the tremendous complexity of the human organism, which has baffled man's reason for so many generations to understand, is only beginning to be

* Read at a meeting of the Manhattan Medical Society of New York City, March 22, 1912

sufficiently fathomed so that a comprehensive grasp of the entire problem has loomed up on the horizon as an imminent possibility and it is only when such a comprehensive grasp is possible that the phenomena of mind fall into place for consideration at all, for they deal primarily with the organism as a whole and therefore it is only after its separate parts in their interrelations and interdependencies have been understood that the problem of the whole can be approached.

It is not my object at this time to enter into that much-worn discussion of the relations subsisting between body and mind. I will merely call attention to the fact that in the past the interests of the physician have been centered on the body and that he has looked at the individual purely from the standpoint of physical ailment.

Let us for a moment, however, take the other point of view and let us look at the situation from the mental rather than from the physical angle. Why does a patient who is suffering from the pain and inconvenience of a sore finger, for instance, consult the physician? It will be said that it is because his finger is sore. I say no, that is not the reason. It is because he is mentally ill at ease. The reason is a mental one and not a physical one. But, it will be said, the man has pain in his finger and that is a physical thing and that is the reason he consults his physician. Again I say no, that is not so. The pain does not reside in the finger; pain is not a physical but a mental fact. While the pain is directly due to the physical condition of the finger, the pain itself is purely a mental experience. If the man had no mind he could have no pain. And again I say that the reason he consults the physician is that he is mentally ill at ease. What does the physician do for him? The usual answer will be that he cures the physical ailment. This is true; but in doing so he is only employing a means to the end of putting the patient's mind at rest. After the individual's mind is satisfied then he is well; he no longer suffers pain; he no longer suffers from the knowledge that there is a disagreeable-looking place on his body, and he is at peace — because, it is true, the physical cause of his suffering has been removed.

Some say that this result is accomplished by dealing with the finger. I admit that by doing certain things to the finger one produces this result, but I insist that the ultimate results produced, so far as the comfort and well-being of the patient are concerned, are mental results and that the changes that are wrought in the finger are only to the end of bringing about such a mental condition. I will admit that I have taken as an example an extreme instance in order that I might illustrate the point of view from the mental angle, but let us proceed a little further and examine, with the aid of the crucial test of all matters medical, a case that came under my observation some time since.

It was the case of a sore finger, and it is for that reason that I introduce it here. A young man had slightly wounded one of his fingers, and it was infected. There was perhaps a single drop of pus inclosed in the infected territory, and there was a slight rise of temperature, as I recall it, about 99 F.; but the young man was in bed, and delirious. What now becomes of the sore finger and its problem in this general situation? The finger as a finger is sunk into insignificance, except as an index to point the way to the much larger, much more important, problem of the individual. The infection is but a barometer that measures the resistance of the patient's mentality, and with one drop of pus, a temperature of 99 F. and delirium, one can see how seriously unstable his mentality must be, so that after all, although my original illustration might have been supposed to be academic, it is not such a far cry from the sore finger to the actual, practical, clinical problem of the disordered mind.

It will be seen from the above simple example how close, how intimate, are the relations existing between the so-called mental and the so-called physical, and how easily when one is affected the other may become involved. This, I take it, all are willing to admit. Let us see where it leads us. Only a short time ago a man came into my office, who represents a type that I am afraid is only too common. He complained of depression, an inability to work, drowsiness and lack of ambition, and such indefinite symptoms. He had rested and he had exercised; he had been to the mountains and to the seashore; he had tried to solve the problem himself, and he had had the advice of physicians; he had been through the hands of the genito-urinary specialist with no results; he was convinced that he was suffering from some kind of auto-intoxication, and he had been through the hands of a gastro-intestinal specialist, who sent him to me. This man had been able to find, after an exhaustive examination, only the slightest kind of an apparent deficiency in the digestion of starches in the intestines. The patient looked to be physically in the pink of condition. He had been to many doctors and none of them had been able to find anything the matter with him whatever, and they all seemed to be obsessed with the necessity of elaborating some kind of hypothesis to explain his symptoms without any of them ever supposing that they were mental. An hour's talk with this man enabled me to make a perfectly clear diagnosis. He was a typical example of one of those mild manic-depressive psychoses that we know by the name of cyclothymia. It is true that he had certain physical symptoms. He was troubled somewhat with constipation for example, and as I recall it, that was about the only physical symptom of any consequence that he did have. He had found out that by taking good brisk cathartics occasionally he felt better, and on such a flimsy basis a theory of auto-intoxication had been erected in his mind. And so we have here a case that is absolutely a mental case, in all its features, mistaken for a physical condition and treated as such in spite of the inability to find any real tangible physical thing to take hold of.

Then we have a class of cases that develop all sorts of gastro-intestinal disturbances after very slight errors of diet, or after efforts involving moderate fatigue, or without any apparent cause we have a certain physical upset that is focalized in the gastro-intestinal system, and these patients are treated in one way or another, by dieting, by rest, and lo and behold! by the end of two or three years we find we have developing on our hands a case of dementia præcox, and we learn by such cases that such symptoms not infrequently precede the frank outbreak of the psychosis, and so again we find back of what on the surface are physical symptoms a mental condition far more serious and usually overlooked.

Then we have a whole host of neurasthenic invalids who have some trouble with them: a cyst of the ovary, prolapse of the uterus, a chronic appendicitis, a floating kidney, and all sorts of other conditions, and as the days go by and the months drag themselves out into years these patients develop a reaction toward their physical malady which is out of all proportion to the degree of the malady itself. They are building a tremendous structure of disordered mind on a small foundation of

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physical ailment, and although they do have something the matter with them physically still the physical thing has long since ceased to be the important feature in the case, and if the physician attempts to work a miracle and cure these people over night by taking out an old appendix or performing a ventro-suspension or a nephropexy, he will have one of his serious professional disappointments and ultimately not only will he retire from the battle-field beaten and chagrined, but he will also fail most hopelessly. What is more, the patient instead of being better will be worse, for throughout the years they have builded on this physical thing a certain structure of hope and the attitude of the physician may have made them believe that when it was removed they would be well; when all of this fails to come to pass they are plunged deeper into the intricacies of their mental tangle. And here again we see the importance of the mental element. And so I might go on interminably with illustration after illustration.

I have said nothing about hysteria, which, I may mention in passing, is a pure psychosis. I have only intimated the existence of the tremendous field of the psychoneuroses, and I have not mentioned that very large group of the so-called symptomatic psychoses, the mental conditions that accompany bodily disease and infections. Not only are all these various groups of mental cases important from the standpoint of medicine in the large, but it is extremely important that attention be addressed to them, because they, as it were, fall midway between the fields of operation of the internist and the psychiatrist. They do not come within the purview of the psychiatrist, at least in their earlier manifestations, while the internist pays little heed to them because he is not interested, and so a field of medicine, a study of which could not fail to be enlightening, is neglected purely because of this practical situation.

In reviewing the various groups of mental cases to which I have but casually directed attention, I think one cannot fail to see that it comprises no small number. While I am not prepared to subscribe to the statement of one of my friends at a recent medical meeting that one of these neuroses alone is the most common disease in all medicine, still I think that if the matter be given careful thought it will be conceded that it is at least debatable as to whether or not this group of diseases does not produce as much, or perhaps more, real suffering in the community than the physical diseases and injuries. So, without entering into more detail I make bold to believe that my point is clear.

With all these truths before us I return to the original statement that during the period of medical education no attention, or at least no systematic attention, is addressed to the mind in anything like the same degree of thoroughness that is devoted to the consideration of any one of the bodily organs, even the brain itself, and I ask, if these things that I have been mentioning represent an important group of cases, and I believe they do, why is not the time now ripe for such considcration in the medical curriculum?

Let us go a step further, and just glance at some of the problems that are usually considered to be social and see what bearing mental medicine has on them. To the great group of the insane I need not call attention. It is quite evident that they belong within the domain of mental medicine. I wonder, however, if we ever stop to think of the immense economic importance of their problem. There are over 180,000 insane being taken care of in the public institutions of this country at present. Think what that means in dollars and cents, remembering that the actual cost of the maintenance of the single individual is probably the smallest portion of his real cost to the community, especially if he be a wage-earner and the head of a family.

The next great class that has to be considered in this connection consists of the idiots and imbeciles — individuals again whose inefficiency is plainly the result of mental disease and defect. Then comes a considerable class of deaf-mutes, many of whom are mentally deficient; while the epileptics we know are generally so. Aside from these classes that are generally conceded to belong to the field of mental medicine there are the paupers, who are not generally supposed to belong in this class; but what, after all, is pauperism but an inability to get along in the world, and what, after all, is an inability to get along in the world but a mental inability, with the exception, of course, of the relatively few cases of physical disablement?

Then, again, any one who has had any considerable experience with the criminal classes knows that practically the entire problem of the criminal is a mental problem, while such social questions as prostitution again group themselves under the same general category. I could give example on example of all of these statements, but in the limited space of such a paper as this it is quite impossible. The recent work with the juvenile delinquent, however, has emphasized all of these points over and over again.

Fortunately this work has also shown that many apparently mentally defective children are so only because of removable physical defects. Here is a boy, for example, who is apparently mentally defective; all he needs is an adenoid operation. Here is another who is tremendously irritable, and really it would seem as if he might be a murderer when he grows up. The whole difficulty is a myopia which is readily correctible.

On the other hand, here is a defective girl, four or five years behind psychologically. There is a girl who will become a prostitute or a criminal, or both. Now is the time to tackle the problem of whether she will or not.

The problems of criminality and of prostitution have been social problems as far back as the history of man goes, and the attempt has always been made to solve them by dealing with the finished product, but one can no more make an impression on these problems by waiting until that time than one can change the center of gravity of the earth. Man has been trying to do it for thousands of years, and he is just where he started. What is the use of waiting until this girl, for example, shall have become a prostitute, and shall have infected innumerable young men, perhaps brilliant and promising, with syphilis, to their everlasting ruin. It is too late when that has occurred. The time is now, when she is a child, and so I might go on indefinitely, for after all, the ramifications and the tremendous importance for the well-being of the state of such problems as these make a lot of the sanitary activities of general medicine look a good deal like a joke beside them in seriousness.

One may be wondering now, perhaps, what I advocate in the way of the study of mental conditions in the medical college — whether I advocate a course of systematic and laboratory psychology and the like. I shall not discuss what ought and what ought not to be taught in the way of psychology — whether we shall investigate the problems of perception and make the student go through a series of laboratory experiences with the tachistoscope, or whether we shall give him a lot of association experiments to puzzle his brains. These are matters of detail. The main thing is to acknowledge

the necessity of at least as much knowledge of the structure and workings of the mind as is insisted on with reference to any one organ of the body, and I think the same kind of knowledge is of the most fundamental importance. I would have the student who leaves his medical college to enter on the practice of medicine realize that his patients are all of them thinking, feeling beings, and that the human mind comports itself much like any of the organs of the body, much like a living organism. I would have him know how it is built up, somewhat of its structure and its mechanisms, sufficiently so that he may appreciate its phenomena as he will see them manifested in the sick-room, and I would have him understand the operation of the more important mechanisms and processes that are the result of disease.

I think I have said enough to demonstrate the necessity of some form of psychologic teaching in connection with medical education; I might add some systematic form. Just what the details should be I am not going to suggest. I merely want to draw attention to certain broad general principles. A great deal that is now taught as psychology is really nothing more nor less than physiology and could be taught in connection with the course in physiology. Such things, for example, as the physiology of the sense organs, color perception, fields of vision, hearing and smell, differentiation of taste and haptic sensations, etc. — all these might be added to the course in physiology.

The main thing that I want to combat is the old-fashioned, time-honored and widely accepted delusion that it is necessary to have a full understanding of the so-called normal human mind before the study of the diseased human mind is entered on. This delusion is based on two gross fallacies. The first is the fallacy that there is any such thing as a normal human mind, or at least that any such thing has been differentiated so that we may know what it is. The psychologists certainly have never told us what the normal mind consisted of, and what possible advantage it can be to select out of the kaleidoscopic combinations of mental elements one certain particular arrangement and label it normal and maintain that none of the other arrangements may be investigated until that one is thoroughly understood is beyond my comprehension. Secondly, why should the thesis be maintained that in order to understand certain mechanisms we should select for study the most complex machine in which these mechanisms are represented, at a time when that machine is working at its highest degree of efficiency and perfection, for purposes of study? As a matter of fact, is it not a more reasonable attitude of mind to take either a simpler machine or a machine that has been made simpler by being put out of order? Is not disease the great laboratory experiment of Nature that tears apart complex structures for us and brings certain things into prominence that otherwise would have been hidden in the mass of undifferentiated mediocrity? We would not have known anything about physiology comparable to what we do know if it was not for disease. Are not all our laboratory experiments the production of artificial pathologic conditions? What would we have known about the problem of language had it not been for the aphasias? Could we ever have presumed that there was a cortical localization of function without disease naturally or artificially produced? The psychology of the medical school should give a comprehensive idea of the human mind in the large and it is not necessary to confine itself to so-called normal psychology in order to do that, nor, on the other hand, to confine itself to abnormal psychology in order to do it. It may take its illustrations from any field of mental activity. It should, however, be prominently humanistic in its trends and be primarily a psychology of motives rather than of reaction times. I do not say that a psychology of reaction times has no place. It has, but it is a refinement of the psychology which is of advantage to the medical student and not a precondition for such a psychology.

The last few years of psychiatry, which I like to call the Renaissance period, have brought about the necessity for the kind of psychology I advocate — a psychology of human beings and human motives, and very much of it might readily be called a common-sense psychology which does not require the learning or erudition of the laboratory investigator to understand its general principles. If the human mind is looked on as a reacting organism developing reactions of defense and compensation precisely as the body develops compensations and defenses to disease, many of the otherwise obscure manifestations of the disordered mind can be explained. The patient with hip disease develops a compensatory curve of the spine so that his center of gravity is not disturbed. The patient with diphtheria develops antibodies to antagonize the invading toxins, and so the patient with mental disease presents to us a series of reactions that are defensive and compensatory in character. There are two patients to-day in the Government Hospital for the Insane who have committed murder. Both of them have developed the delusion that the person they killed is not in fact dead. It does not require any recondite psychology to understand how the development of such a delusion enables them to live in comparative peace of mind. The delusion defends them from the reality; their psychosis offers them a compensation for the "slings and arrows of outrageous fortune."

Psychiatry is beginning to-day to look on the psychosis not as a disease, but as an expression of the type of reaction of the individual to inimical conditions. The delusion is not the disease; the delusion is the outward expression of the repair process — the process that is endeavoring to bring about harmony and balance in the patient's mental make-up so that he may live at peace with himself. The psychosis, not infrequently, at least, is the resort of the individual from a world of reality in which he cannot live. The patient builds up, by means of his delusional system, an artificial world to which it is possible to adapt himself — in which he can live.

This, which I have briefly illustrated, is the kind of psychology with which the college student should enter on his life-work. He should be able to see the operation of motives in his patients, to understand the mechanisms by which their wishes and desires express themselves, and to place himself, therefore, in a position of understanding with reference to their attitudes. This is vastly more important than even to have worked at great length over the association experiments. If he knows this he is able to have a comprehensive grasp of the human mind and realize how it works as a whole, to take care of the human mechanism in its endeavor to bring about an adjustment to the environment, and to mold that environment to suit its desires. He will then be in a position if he so chooses to go further on the path, to make special investigations of special phenomena and to apply in detail the laboratory methods of refined science.

In the short space at my disposal it is not possible, nor have I tried, to outline the kind of instruction that I think would be best adapted to these ends. I only desire to emphasize the necessity for the study of mind as a

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preparation for the practice of medicine: I only aim at creating a recognition of this necessity. The details can be approached at any time; they are a secondary consideration to the general principle and are after all only details. And finally, it must not be forgotten that the vogue of a great deal of pseudomedicine, the "patent" remedies, the half-baked pathies, the hosts of charlatans and mountebanks are thriving in a department of medicine that the legitimate practitioner has simply and plainly neglected, and they are thriving to no small extent because of that neglect. The good results that they obtain — and no one can deny that they do obtain good results sometimes — are obtained by the effect of their practices on the minds of their patients, and all this is going on while the general practitioner refuses to busy himself with such matters as psychotherapy and the medical schools neglect to teach the structure and functions of the mind. Here is a field in which medicine has neither availed itself of its opportunities nor measured up to its responsibilities, and until it does both of these it can ill afford to throw stones.

THE RELATION OF CHRONIC GONORRHEA AND OTHER INFECTIONS IN THE URINARY TRACT TO JOINT DISEASE *

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As a rule gonorrhea is a local disease, but in a small percentage of cases the germ or its toxins escape through the circulation and the lymphatics, and a systemic condition ensues. Metastatic gonorrheal inflammation attacks, among many other structures, the joints in perhaps 2 or 3 per cent. of all cases of systemic infection. The condition is sometimes due to the invasion of the joints by the gonococcus alone, sometimes to a so-called mixed infection with pyogenic bacteria or their products.

Gonorrheal arthritis is more common in men than in women, the latter seeming to be almost immune to this complication, which is supposed to be due to the fact that the vagina and not the urethra is the usual seat of gonorrhea in the female. This, however, is only a supposition. We find the initial infection at least as often in the female urethra as in the vagina.

I believe the cause of this apparent immunity is to be found in the difference of the structures of the female urogenital tract and, secondly, to the lesser chance of traumatic injury to the urethra and vagina in the course of treatment of a gonorrhea. In the light of our present knowledge of the etiology of gonorrheal metastasis, it requires either local retention with a subsequent trauma of some sort or an abrasion of the protecting epithelium in order to allow the escape of the bacteria or their toxins into the blood-vessels or the lymphatics. Such a trauma may be a mechanical one, but a sexual excitement or a congestion from any source may serve the same purpose. Epithelial lesions may be produced by instrumentation, but the invasion of the deep urethra or the vesical neck and the trigone by the gonorrheal process leading to more or less congestion and bleeding is sufficient to expose smaller blood-vessels and offer an escape of the bacteria and their toxins. Neither endourethral instrumentation nor the invasion of the posterior urethra and the trigone usually occurs in the earliest stage of the disease and, therefore, metastatic arthritis is rarely observed at this stage.

At first glance it would seem that, in the few cases in which metastasis in the joint has taken place in the first week of the gonorrheal urethritis, a personal idiosyncrasy has existed and in support of this theory cases are quoted in which certain individuals have remained well between gonorrheal attacks, but had new attacks whenever a supposedly new urethral infection was acquired. I have repeatedly observed such cases, but I am not able to accept the theory of idiosyncrasy, since close investigation proved conclusively that the patient in question had the same case of gonorrhea from the first attacks of urethritis to the last one. True, they had it in a more or less latent condition, interrupted by an acute or subacute flaring up, which latter when appearing after a sexual intercourse was considered as evidence of a new infection.

The very few cases recorded in the literature in which gonococcus pyemia appeared within a few days after a first infection could be classified as due to an idiosyncrasy, but is it not possible that lesions like those mentioned above might have opened the gate for the systemic invasion? I have particular reference to lesions caused by irrigation under pressure. Otherwise we could hardly understand why there is such a small percentage of it, considering the large number of gonorrheal infection, and particularly so very few cases occurring in the early stage of the disease.

More recently the idea is gaining ground that the source of infection of the joints in the male adult is chiefly to be found in retention foci of the urogenital tract from the anterior urethra up into the renal pelvis. Such foci are established in the follicular apparatus of the anterior urethra, in the glandular tissue of the prostate, in the Cowper gland and in the seminal vesicles.

While gradually the necessity of an examination of the prostate in an unduly prolonged urethritis and its complications became recognized, very few have yet appreciated the importance of the seminal vesicles as a contributing factor, and only occasionally even the specialist thinks of palpating the Cowper glands in these cases. And just the retention of septic material in the seminal vesicles is responsible for a very large proportion of chronic ever-recurring urethral discharges, relapse of epididymitis and cystitis and metastasis in the joints and other tissues.

In some of these cases there is a persistent but scant urethral discharge which increases on provocation of some kind and decreases rapidly with or without treatment. In others the discharge ceases entirely under local treatment, but reappears within a few days after treatment is discontinued.

Again, in others there is no visible discharge, but the urine at times contains shreds of different size and shape; at other times there are no shreds present; on very close inspection a few minute flocculi are seen floating in the otherwise clear urine. The shreds very shortly drop to the bottom of the glass, which indicates pus and permits the conclusion of the presence of pyogenic germs. The comma-shaped shreds originate in the prostatic follicles and the seminal ducts from which they are expelled by the terminal contractions of the circular muscle-fibers.

In some cases a more or less severe cystitis or epididymitis of short duration, but repeatedly recurring, is observed.

If an articular swelling should occur in the absence of a visible urethral discharge, perhaps months or years after a urethritis was apparently cured and had long

* Read at the meeting of the North Central Branch of the American Urological Association, St. Louis, Feb. 6, 1912.

been forgotten, if the examination should be superficial and the urine at that time incidentally be found free from shreds the metastatic character of the lesion may be easily overlooked. The more recent term "cryptogenetic" sepsis owes its origin largely to these retention foci in the seminal vesicles, and the other appendages of the urogenital tract.

Yet in all the previously mentioned types, palpation of the seminal vesicles and of the ampulla will demonstrate tender or infiltrated areas and massage will bring out some pathologic debris into the urethra, whence it may be procured by irrigation with sterile water. Sometimes the first massage might not mobilize the septic material sufficiently to make it macroscopically visible in the washings of the urethra, but these washings when being chemically tested will give a positive albumin test which may be accepted as corroborative evidence of a diseased condition in the suspected parts. On repeating the massage, shreds and eventually pus, the former often being a perfect cast of the seminal tubules, will be eliminated. The absence of the visible pathogenic particles in the first massage is due to the peculiar arrangement of the interior of the seminal vesicles, to the favorite selection of the lowest points by the bacteria, and the tendency of these pockets to be closed up for a longer or shorter period. Picker, who has done very excellent and instructive work along this line, found five different types of seminal vesicles.

1. Those with simple, straight tubules.
2. Those with large and tortuous tubules.
3. Thin and tortuous tubules with or without diverticula.
4. Those with a short main duct and large branch-like side ducts.
5. Those with a straight or tortuous main duct leading into large grape-like diverticula.

The terminal side ducts show an alveolar type. This anatomic consideration readily explains the clinical picture and the pathology of infections in this tract.

There are cases in which Nature succeeds in building a wall around these foci by a perivesiculitis, enclosing the alveolar terminus so affected and the bacteria die off. In others the retention is but temporary, a sexual excess, a physical exertion or simply a flaring up of the virulence of the germs increases the secretion in these "retention cysts," which finally breaks through the sealed ducts appearing either as shreds in the urine or if copious as a discharge in the urethra. Again, in others the septic material becomes absorbed by the lymph-channels, and we have then the various pictures of general malaise, of grip-like attacks, of neuralgia or rheumatism, eventually swelling of the joints, gonococcus pyemia and septicemia.

As a rule the diagnosis is not difficult to make, if a discharge and the history of the case are pointing to the urogenital tract, as the focus of the infection and as the cause of the more or less acute symptoms at the site of the affected joint or joints. But the etiology is likely to remain unrecognized in the absence of a urethral discharge and also during pregnancy and in the puerperium; yet just these latter conditions are favorable for the development of metastatic joint disease. In doubtful cases it is advisable to introduce — under strictest aseptic precautions — an aspirating needle into the cavity of the joint and to withdraw some fluid for examination. The germs in a pure gonococcus metastasis, however, are short-lived and might not be found in this fluid, or the exudate might have been produced by toxins from the beginning. The aspiration is, furthermore, applicable only in serous effusions.

The real nature of the disease is also likely to be overlooked in that type of metastasis which is characterized by persistent pain in the joints without any visible or palpable structural change. The trouble is usually attributed to rheumatism, uric acid diathesis, neuralgia, auto-intoxication, faulty metabolism, defective assimilation. Inefficiency of the remedies generally successfully employed for these ailments, the gradual subsidence of the pain and its return, which often coincides with the reappearance or increase of the urethral discharge, should be helpful in locating the focus of the trouble.

Other features distinguishing the typical cases of metastasis from ordinary articular rheumatism, are: the involvement of but one joint, or if polyarticular, the invasion of one joint after the other in longer intervals, no sweats, rarity of cardiac complications, and lower degree of fever.

A number of years ago I was asked how I was treating gonorrheal rheumatism, to which question I replied: "By treating the gonorrheal focus." And this, to my mind, is the only logical procedure. If the joint disease is found to be due to an infectious urethritis, it will subside as soon as the latter is suitably managed and checked. If the urethritis be due to retention foci, injections, irrigations, dilatations and topical applications will fail until the septic material be mobilized and removed from these retention pockets. And this can be accomplished only by massage.

For years it has been almost a dogma that massage of the prostate and vesicles should not be done oftener than once in four to five days, and that a single treatment should last from three to five minutes. While this mode of massaging might be suitable and indicated for ordinary chronic inflammatory conditions and for the removal of infiltrations, it is absolutely inefficient for the removal of septic material from retention foci. Here the massage has to be repeated daily, but should not take up more than one-half to one minute.

Chills and fever following the earlier treatments and lasting from several hours to one or two days are a positive evidence of the presence of septic material of its successful mobilization and elimination, and, therefore, may be accepted as a favorable sign. The massage, however, should not be resumed in less than twenty-four hours after these reactive symptoms have subsided.

This treatment should be kept up until no more septic material appears in the washings for at least two weeks and even then it should be discontinued by gradually increasing the intervals between massaging.

The Cowper glands, if diseased, are easily located on both sides of the median line about 1 cm. below the apex of the prostate. They are readily massaged by counter-pressure exerted by the fingers of the free hand from the perineum. The follicles and crypts of the anterior urethra should be massaged over a medium-sized, short, straight metal sound introduced in the canal.

Ordinarily the seminal vesicles can be palpated and massaged in the same position as is assumed for the treatment of the prostate. Counter-pressure over the symphysis exerted by the free hand is helpful to steady them. Where the perineum is very deep we let the patient assume a squatting position with the upper part of the body inclined forward, or as I may express it, the patient is sitting down on the finger of the physician.

Other methods which may be of assistance in dealing with metastatic joint disease are immobilization, Bier's artificial hyperemia, hot air, the constriction of the

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affected joint, and the bacterin treatment. In the acute stage the constriction is very efficient as a symptomatic measure, reducing the swelling and checking the pain very promptly, but in order to do so it has to be applied for at least eighteen hours at a time. Heat is beneficial in the chronic stage. The bacterins are of value if given in conjunction with the local measures at the focus of infection. That a purulent exudate in a joint has to be opened, the cavity drained and such other surgical procedures instituted as the individual case might require, goes without saying.

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THE PRESENT NON-MEDICAL TREATMENT OF TUBERCULOSIS NOT NEW

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It grates on our vanity somewhat to have to acknowledge that the modern conception of the non-medical treatment of tuberculosis contains little that is really new. So far as concerns the management and prevention of this disease, a short study, mainly of English medical literature of the seventeenth and eighteenth centuries, will convince the most skeptical that these writers knew as much of the proper regimen for consumptives as is known to-day. Why it is that so much and such valuable teaching was for a generation or two, at least, lost sight of, we cannot now stop to inquire. I cannot forbear to begin our study by quoting from Celsus, who wrote in the first century of the Christian era:

> Soon as a man finds himself spitting and hacking on rising in the morning, he should immediately take possession of a cow and go high up into the mountains and live on the fruit of that cow. . . . Neither can it be doubted that scarcely anyone falls ill, who has not disregarded these means[1] [abstinence from food, wine, etc., and a proper care of the body]. If strength permit, there is a necessity of long voyages (for the consumptive) with change of climate, so that he may search for a more dense atmosphere than the one he departs from . . . at that time, all business and mental solicitude must give place to tranquillity of mind, he must indulge in sleep . . . milk also . . . may be given beneficially in phthisis as well as in all chronic and obstinate fevers.[2]

After enumerating various medicines for the amelioration of the consumptive's condition, including that noble remedy of our own and our grandmother's day, horehound, he says:

> But the principal of all these are diet, carriage exercise, sailing and gruel. When a patient begins to grow a little *better* [italics mine.—R. C. N.] he ought to increase his exercises, friction, and food, afterward to rub himself, *meantime retaining his breath* [italics mine; this is, by the way, a most valuable means of practicing deep breathing.—R. C. N.], and to abstain a long time from wine, the bath and venery.

We now take a long jump to Thomas Sydenham (1624-1629), who says:[3]

> But of all the remedies for phthisis, long-continued journeys on horseback bear the bell, in respect to which it must be noted that if the patient be past the prime of life, more exercise of the sort in question must be taken, than if he were a youth or boy . . . By the above method, I have cured many . . . I have not known that long and persistent riding in good air . . . hath ever failed, and though riding hath done well in hypochondriacal and other distempers, yet it does better in phthisis . . . In his journeys, he (the patient) need observe no diet, but may eat and drink what best agrees with his appetite; only let him take care that the linen in which he lies be dry, for the dampness of it will quickly bring back all the mischief. . . . I am sure that if any physician had a remedy for the curing of phthisis of equal force with this of riding, he might easily get what wealth he pleased. . . . I can truly say that I have missed the cure of very few.

After insisting again that the patient must be unremitting in his horseback exercise, Sydenham commands him also "to go into new places: for the change of air and diet do as considerably add to the cure as the exercise itself. . . . Women, or very weak men, that cannot ride on horseback, may ride in a coach, and yet obtain the same end, as I have seen by often experience."[4]

> Riding . . . has cured patients when many medicines would have benefited as much as so many words, and no more. This not only in many cases of cough and weakness, but after wasting night-sweats and colliquative diarrhea having signified the approach of death, *ultima linea rerum*. Indeed, deadly as phthisis is (killing two-thirds of those who die of chronical diseases) it has a specific in riding, as truly as ague has in bark, or the venereal diseases in mercury, provided only that the journeys are long enough, and the beds at night are well aired.[5]

An interesting account is given[6] of a patient who had "fallen into hypochondriasis (not improbably some form of tuberculosis) which had lasted for seven years; finally, the colliquative diarrhea supervened. He consulted Sydenham, who, seeing that there was "no room for medicines", which "had been tried too long and too much in vain", recommended horseback riding, "first in short rides, such as his health would allow". Sydenham interpolates sententiously: "Had he been a man of less acute judgment, he never would have been induced to try it." He did try it, however, and persisted in it until he had ridden over 1,000 miles, taking "no care of regular meals, nor yet of the weather" and was finally restored to "perfect health and vigor."

Mr. Lawrence, Dr. Sydenham's nephew, "after a fever, fell into a cough and other signs of an incipient phthisis (the morbific matter having violently translated in on his lungs)"[7] and at length the diarrhea colliquativa came on; then the doctor sent him into the country on horseback (though he was so weak he could hardly walk) and ordered him to ride 6 or 7 miles the first day and to "daily increase his journey as he should be able, until he had ridden 150 miles. When he had traveled half that way, his diarrhea stopped." The young man, contrary to the doctor's orders, intermitted his journey too soon; "for if they stay before they are recovered, this spoils all again." He resumed his riding, however, and in four or five days "came up to London, perfectly cured."

1. Celsus: Alexander Lee's Edition, London, 1831, Cap. III, Lib. III, 150.
2. Celsus: Cap. xxii, p. 222.
3. The works of Thomas Sydenham, transl. by R. G. Latham, London, 1850, II, 206, 331.
4. The instance of Dr. Bowditch's forebears, who were cured of consumption by a wagon journey through New England, is too well known to need comment. Also the history of Dio Lewis's wife, who spent much of her life out of doors, walking, sawing wood, etc., from 1853-1858, and is alleged to have been thereby cured of consumption. Dr. Thomas L. Stedman informs me that it was the custom in Denmark, long before Koch's time, for men in the early stages of consumption to seek employment as rural letter carriers, and that by this means their health was restored. Fifteenth Ann. Rep. Loomis Sanatorium, Liberty, N. Y., p. 33, says: "Carefully supervised graduated exercise remains one of the chief factors of treatment of all divisions of the Loomis Sanatorium."
5. Sydenham's Works, p. 107, Par. 118.
6. Sydenham's Works, p. 107, Par. 117.
7. Sydenham's Works, II, 334.

Dr. Brady,[8] a correspondent of Dr. Sydenham's, animadverting on the hygienic treatment of disease, says in a letter to Sydenham:

No physician hitherto has attentively considered the force and influence of the atmosphere on human bodies; nor yet has he sufficiently ascertained the part it plays in prolonging human life.

William Buchan[9] said, about 150 years ago:

Consumption prevails more in England than in any other part of the world, owing, perhaps, to the great use of animal food and malt liquors,[10] the general application to sedentary employments, and the great quantity of pit coal which is there burnt, to which we may add the perpetual changes in the atmosphere or variableness of the weather.

He lays down for consumptives the following regimen:[11]

On the first appearance of consumption, if the patient lives in a large town, or any place where the air is confined, he ought immediately to quit it, and to make choice of a situation in the country where the air is pure and free. Here he must not remain inactive, but take every day as much exercise as he can bear. . . . The best method of taking exercise is to ride on horseback, as this gives the body a great deal of motion, without much fatigue. Such as cannot bear this kind of exercise must make use of a carriage.

It is a pity that those who attend the sick seldom recommend riding in this disease till the patient is either unable to bear it, or the malady has become incurable. Patients are apt to trifle with everything that is in their own power. They cannot see how one of the common actions of life should prove a remedy in an obstinate disease, and therefore they reject it while they greedily hunt after relief from medicine, merely because they do not understand it.[12]

Next to proper air and exercise we would recommend a due attention to diet. The patient should eat nothing that is either heating or hard of digestion . . . for this purpose, he must keep chiefly to the use of vegetables and milk. Milk alone is of more value in this disease than the whole *materia medica*.[13,14]

Buchan continues:[15]

I have known very extraordinary effects from asses' milk in obstinate coughs, which threatened a consumption of the lungs, and do verily believe, if used in this period, that it would seldom fail. . . . It ought to be drunk, if possible, in its natural warmth and by a grown person in the quantity of half an English pint at a time, to be drunk three or four times a day.

Some extraordinary cures in consumptive cases have been performed by women's milk. Could this be obtained in sufficient quantity, we would recommend it in preference to any other. It is better if the patient can suck it from the breast, than to drink it afterward.[16]

I knew a man who was reduced to such a degree of weakness in consumption as not to be able to turn himself in bed. His wife was at that time giving suck and, the child happening to die, he sucked her breasts; not with a view to reap any advantage from the milk, but to make her easy. Finding himself greatly benefited by it, he continued to suck her until he became perfectly well, and is at present a strong and healthy man. . . . Some prefer buttermilk, and it is indeed a very valuable medicine, if the stomach be able to bear it. Cow's milk is most readily obtained of any, and though not so easily digested, as that of asses or mares, it may be rendered lighter by adding to it an equal quantity of barley water, or allowing it to stand for some hours and afterward taking off the cream.

Buchan recommends:

Flesh diet and strong liquors, which have been so long used by those who fall into consumption, must not be too suddenly given up, but gradually replaced with a diet consisting chiefly of milk and vegetables,[17] which the sooner that it can be brought to bear, the better. . . . Rice and milk, or barley and milk, boiled with a little sugar, is very proper food. . . . Ripe fruits, roasted, baked or boiled are likewise proper. The jellies, conserves and preserves, etc., of ripe subacid fruits ought to be eaten plentifully. . . . Wholesome air, proper exercise, and a diet consisting chiefly of these and other vegetables, with milk, is the only course that can be depended on in a beginning consumption. . . . If the patient has strength and sufficient resolution to persist in this course, he will seldom be disappointed of a cure. . . .

In a populous town in England where consumptions are very common, I have frequently seen consumptive patients,[18] who had been sent into the country with orders to ride and live on milk and vegetables, return in a few months quite plump and free from any complaint. . . . This indeed was not always the case, especially when the disease was hereditary, or far advanced; but it was the only method in which success was to be expected; where it failed, I never knew medicine to succeed. . . . All the food and drink ought, however, to be taken in small quantities, lest an overcharge of fresh chyle should oppress the lungs and accelerate the circulation of the blood. . . .

The patient's mind ought to be kept as easy and cheerful as possible. Consumptions are often occasioned and always aggravated by a melancholy cast of mind, for which reason music, cheerful company and everything that inspires mirth, are highly beneficial. . . . The patient ought seldom to be left alone, as brooding over his calamities is sure to render them worse. . . .

Though the cure of this disease depends chiefly on regimen, and the patient's own endeavors, yet we shall mention a few things which may be of service in relieving some of the more violent symptoms. . . . It is common in this stage of the disease to load the patient's stomach with oily and balsamic medicines. These, instead of removing the cause of the disease, tend rather to increase it. . . . Whatever is used for removing the cough besides riding and other proper regimen, ought to be medicines of a sharp and cleansing nature. . . . Acids[19] seem to have a peculiarly good effect in this disease. The vegetable acids, apples, oranges, lemons, etc., appear to be the most proper.[20] Before we quit this subject, we would earnestly recommend to all as they wish to avoid consumptions, to take as much exercise without doors as they can, to avoid unwholesome air and to study sobriety. . . .

Consumptions owe their present increase, not a little to the fashion of sitting up late, eating hot suppers and spending every evening over a bowl of hot punch or other strong liquors. These liquors, when too freely used, not only hurt the digestion and spoil the appetite, but heat and influence the blood, and set the whole constitution on fire.

8. Sydenham's Works, ii, 3.
9. Buchan, William: Domestic Medicine, or a Treatise on the Prevention and Cure of Diseases, London, 1784.
10. Many writers of the present day agree with Buchan in regarding an excessive meat diet as a cause of tuberculosis, and there can be no question that the general use of alcoholic beverages is a principal cause of this disease.
11. Buchan: p. 196.
12. Buchan: p. 197.
13. Buchan: p. 198.
14. This dictum of Buchan's was strongly endorsed in the writer's experience in 1908, when to a *questionnaire* sent to a number of sanatoria in this country and abroad, regarding the proper treatment and regimen to be observed for the cure of phthisis, answers were received from thirty-four of these institutions, and the opinion was strongly expressed that milk is superior to every other article of diet in the treatment of consumption, and is an invaluable aid to the treatment. A Scotch physician (name unknown) wrote in 1747 to his London colleagues, on the incontestible evidence of the results he had obtained that "hygiene and diet are the most important means of cure (in consumption)" and that "climate and medicine are but more or less precious adjuvants."—Human Consumption and Civilization, p. 46. In the summing up of the information elicited by the *questionnaire* alluded to above, the following statement is laid down as axiomatic. "They (the methods now in vogue to cure tuberculosis) all point to the great truth that the means which are curative in this disease will surely prevent it if employed early enough."
15. Buchan: p. 198.
16. Buchan: p. 200.
17. Buchan: p. 201.
18. Buchan: p. 202.
19. Buchan: p. 203.
20. Buchan: p. 208.

Beddoes said,[21] in 1799:

The recoveries (from phthisis), however few, that have taken place, whether from sea voyages or rare accidental combinations, show that the cure of consumption is no physical impossibility. And that a remedy should not sooner have been discovered for this than for some other disorders is, perhaps, less owing to its essential nature, than to those events which brought the European world acquainted at a certain era with Peruvian bark, quicksilver, and other powerful articles of the materia medica.

This observation, to my mind, touches on one of the most pregnant facts in medical history. The great discoveries that quinin would cure malarial fever and mercury would cure syphilis have led, apparently, to the adoption of the still prevalent doctrine that a specific remedy for every disease can be found by sufficient search. It seems to have led to the drug worship of the past century and to have caused the average medical man to spend his energies in searching for the specific remedy for each complaint to the exclusion of the study of pathology, not to mention hygiene and physiology.

Now that the wave of drug worship is receding, there is danger that we shall go too far in condemning these useful bridges that unquestionably help us over many otherwise impassable paths from disease to health.

That the treatment of tuberculosis is almost entirely hygienic, and that drugs have done more harm than good in its management, is now well enough understood. The number of human lives which have been sacrificed in the search for a specific cure for it can never be computed.

To return, however, to Beddoes; after showing in a note that consumption was unknown among the fishermen and women[22] who worked very hard out of doors, he lays down the following general rules as essential to exemption from the development of phthisis:[23]

Much exercise in the open air, especially during the early years of life, such clothing as preserves temperate warmth, nutritious diet, into which animal food largely enters. . . . Thus may constitutions, moderately good, be prevented from alteration for the worse. . . . The puny may be rendered more robust on the same plan, but the execution demands some management. . . . The following rules do not make up an entire system, but if their spirit be seized, an analogy will readily supply the omissions: Let the antiphthisical regimen begin early. Children cannot too soon after birth be removed into the country. . . . Animal food[24] should form a considerable part of the diet where no positive indisposition exists.[25]

After speaking of the undesirability of living like a butcher or a fish-wife for the sake of becoming strong and avoiding consumption, Beddoes adds sententiously:[26]

There seems to be no reason for alarm on this score, a habit (of body) little susceptible of pulmonary consumption has no (necessary) connection with grossness or vice. These (habits) lead to excesses which induce different, but equally fatal disorders.

This is a dictum proved by modern vital statistics, which show a great increase in the mortality from kidney and heart diseases (the diseases of indolence, gluttony and intemperance) while there is a diminution in the mortality from tuberculosis.

Proceeding with his rules for preventing consumption, Beddoes says:[27] "Dress should be such as to keep up a temperate feeling of warmth." He thinks flannels (the supposed sheet anchor of the antiphthisical dress) not always indicated, and often injurious. "Immersion in the atmosphere of heated rooms for many hours together, during the whole winter season, is to be particularly avoided."

Beddoes continues:

The ingenious improvements in fire-places by Count Rumford are, I fear, likely to be abused in this country, and by rendering our apartments still hotter and closer, to add to the frequency of consumption. In lowering the temperature of our habitations, it is only necessary to guard the extremities, and particularly the feet against the impression of cold.[28] . . . . The weakly should never be exposed to *considerable or continued chill*. In the application of this rule, the difference of age will make a great difference. Infants, on whom the impression is less dangerous, should be inured to cold by immersion in water, but as the infant is more weakly, the water should be at a higher temperature (65 to 70 degrees) . . .

The consequences of a sedentary life are extremely to be apprehended for the puny members of phthisical families. **Education should be regulated accordingly.[29] . . . Imprisonment in grammar- and boarding-schools must be death to multitudes. As the public is evidently coming more toward reason in the subject of education, which our seminaries, where the barbarous monkish discipline which our schools have retained so long after the abolition of monasteric institutions, should be relinquished, and instruction through the senses, exercise and *aration* be the leading objects, now meet with sufficient encouragement. . . . It is also to be wished that parents could be induced to place *health* in the balance against *wealth*.**

Speaking of the hesitancy of young people to consult the medical man for slight indisposition, Beddoes adds:[30]

Much less should we wait until they declare themselves invalids. In this, as in other things, there is a manner known to the French by the term *savoir faire*, by which the head of a family may maintain an acquaintance with the moral and physical situation of its members. This all parents will find their account in cultivating.

Beddoes also plainly saw the possible advantages of changes of climate. It has long been an ackowledged fact in modern climatology that a change from one locality to another is often beneficial to an invalid, even when the patient goes from a healthful climate to one less salubrious. Beddoes says:[31]

The prevalence of consumption in any climate does not demonstratively prove that it is not better than their own for invalids from colder latitudes. Transportation from Herefordshire to Normandy, or to France, might cure cankered apple trees, although the climate of France should not preserve its indigenous apple trees from the canker. In general,[32] however, the difference between the sexes, the consideration of the exempted classes, and the lowered tone of health, induce me to look to robustness of temperament as the grand preservative. . . .

That so many important questions relating to so universal and *so terrible* a malady should remain unsettled to the present hour, and, that in order to provoke the truth, a writer should be under the necessity of hazarding conjectures, seems to demonstrate how little men attend to what the most concerns them. For it is not from any natural necessity that opinion upon these points continues vague.[33]

21: Beddoes, Thomas: Essay on the Causes, Early Signs and Prevention of Pulmonary Consumption. London, 1799, p. 285.
22. Beddoes: p. 49 and note to p. 311 et seq.
23. Beddoes: p. 313.
24. Beddoes: p. 314.
25. A medical practitioner who has seen 70,000 patients belonging to the navy informs me (Beddoes) that he believes Irish seamen more subject to scrofula than British. Let the reader compare this with what was said above on diet.
26. Beddoes: p. 312.
27. Beddoes: p. 315.
28. Beddoes: p. 317.
29. Beddoes: p. 318.
30. Beddoes: p. 320.
31. Beddoes: p. 328.
32. Beddoes: p. 329.
33. Beddoes: p. 32

In speaking of the benefit alleged to accrue to the consumptive from breathing the air of cow stables, this acute observer questions (note to p. 340) whether the benefit might not come from the temperature *alone*, and whether the proximity of the animals themselves is of any value. He gives a great preference to digitalis in treating consumption, but we must excuse some error in a work so sensible and so broad, and, I might add, so ahead of the average medical opinion of his time or our own. He argues also (page 337) strongly for the formation of a society to study, and if possible determine the causes of, tuberculosis as well as the means of prevention.

Barry said, in his treatise on consumption, published in 1726:[34] "Ulcers in the lungs, when narrowly viewed with microscopes, are covered with several insects," and from thence concludes:

They take their first origin from such animalcules which, being inspired, with the air, fix their situation on the lungs and erode and ulcerate the vessels; and from the same irregular way of reasoning, these animalcules have been, by others, supposed to be the cause of several distempers, and particularly such as are contagious.

This reads like an inspired prophecy of the present science of bacteriology. Barry continues:[35]

The body in the disease must be kept as much as possible in a state of rest, even speaking is improper while the wound is fresh, as the lungs are particularly agitated by that muscular motion. A milk diet, carefully directed is preferable in this case to any other, as it is of a cooling, soft, nourishing nature, requires scarce any digestion . . . it is not only balsamic and restrains too quick a circulation, but seems specifically to correct that acrimony so peculiar to consumptive fluids.[36] . . . If cow's milk be apt to render them costive, it may conveniently be mixed with a small proportion of honey, or exchanged for asses' milk, which is more light and opening, and less apt to curdle. Breast-milk is more natural, and in every respect preferable to any other, especially if the nurse be of a healthy constitution, and feeds on a proper, cooling diet.[37] . . . If this method be timely and carefully continued, and suited to the strength and constitution of the patient, many may be thereby recovered, that will otherwise unavoidably perish. For if bleeding to a sufficient quantity be deferred for a few days, till the ulcer be formed, it afterward proves of no service, but does rather hasten their death; and nothing more certainly contributes to this, and is more fatal in the consequence, than any error in the medicine or diet in the beginning. . . .[38]

When this regimen has been continued for the space of two months, or till all remains of the cough and other symptoms are carried off, gentle exercise, and particularly riding in a fine, dry air must be used, when the stomach is most empty, in the morning and afternoon, that the vessels of the lungs may thereby be strengthened. A greater latitude in diet is to be admitted by careful degrees.

Barry also speaks of an excessive meat diet as a cause of consumption.[39]

Speaking of the contagiousness of consumption, he says: "Some authors are of the opinion that this *distemper* is *contagious*."[40] He thinks, however, that it can be communicated from one person to another only when the consumptive is in the last stages of the disease, and the recipient has a peculiar predisposition to the malady. "But," he adds, "when these circumstances concur with sufficient force, it is most certain from undeniable instances that the infection may be easily communicated." Barry also utters the following indisputable dictum, the truth of which we must fain acknowledge, although it is undeniable that our perspective in medicine is, at present, somewhat dimmed by the mass of detail in the shape of microscopes and microtomes, and the thousand and one elaborate theories and learned deductions from them, with which we are surrounded:

Since it appears that whatever enfeebles the frame or deteriorates the constitution predisposes to the diseases in question, How shall we avert this predisposition? The answer is apparent. We must do everything in our power to invigorate and fortify the tender frame, to bring all its functions into a healthy state and, by all means, to endeavor to keep them so.

Baron,[41] in describing the treatment of a case of phthisis, says (1822) that he "confined him [the patient] to a strictly vegetable diet." He also says:[42] "There probably is a period in the most formidable of all the tuberculous diseases when its course may be stayed and the cause of subsequent evil eradicated from the system." This writer, however, relies more on medicine in the fight against tuberculosis, than diet or regimen, and evidently shows the tendency toward the intense worship of drugs which characterized the nineteenth century. This method of treatment, no doubt, led to the hopelessness with which the outcome of the disease came to be looked on during the first three-quarters of the nineteenth century. As Baron says:

The treatment of the deplorable malady, when it is fully established, affords nothing on which the mind of the physician can dwell with any satisfaction. The most powerful resources of his art fail and he sees his patients pining in wretchedness, bereft even of the power of affording them temporary relief.

In 1849, Addison said: "No one can meddle with a view to adjust any of the many links of life, without attention to diet, air and climate."

We have, in the quotations just cited, mentioned practically everything that is to-day considered essential in the treatment and prevention of consumption. These vital truths have been gathered from the writings of physicians living more than 100 years ago. Their truth is now proved. Verily we should not disdain the teachings of the wise and good men who have preceded us in medicine; and this leads me to ask: Is it not high time that a chair of medical history were founded in every medical school in America? Are we not often painfully and slowly going over the ground of treatment and regimen in many diseases which we might have learned a great deal about in a few hours by reading attentively the masters of physic, like Sydenham? Truly, "the new things in medicine are the things which have been forgotten." A proper course in medical history would not only be an act of justice to our predecessors, but it would be an enormous saving of our own time, and might prevent many a mistake and incidentally might, as in the matter of the treatment of tuberculosis at least, have saved a few thousand, or rather a few million lives. The awful condition of the rich consumptive of the nineteenth century may well excite our pity with his windows battened down, his bed piled with blankets and quilts, the bed-curtains tightly drawn for fear a draught might strike the patient, cod-liver oil, whisky, creosote and many other nauseous and hurtful substances forced on the poor sufferer; while fresh air, the God-given remedy for the disease, was sedulously excluded, with the result that the

34. Barry, Edward: **A Treatise on Consumption of the Lungs**, Dublin, 1726, p. 273.
35. Barry: p. 235.
36. Barry: p. 236.
37. Barry: p. 237.
38. Barry: p. 238.
39. Barry: p. 257.
40. Barry: p. 127.

41. Baron, John: **Illustrations of the Enquiry Respecting Tuberculous Diseases**, London, 1822, p. 227.
42. Baron: p. 229

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patient's death was only a question of time, and the contagion was frequently spread from his bed-side to the innocent members of his family. It is presumable that Sydenham and other authors I have quoted have been occasionally read by the drug-worshiping practitioners of the nineteenth century; yet, their words must have sounded like idle tales, the vagaries of an ancient and forgotten régime. The average medical teaching of the past century reminds one of the absurd systems of modern ventilation, which take no heed of the fact that air may be chemically pure, and yet be "dead." These expensive systems of supplying pure, yet nevertheless more or less worthless air, depend for their efficiency on the windows being kept closed, so that God's air, the outer air, the moving, live air, is carefully excluded.

It would seem that the medical world has largely been taught the dry and valueless assumptions of the theory-makers in medicine; while the vital facts of the *experience* of such a man as Sydenham have been as carefully kept from our medical students as vital air has been kept from our school children.

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A NEW AND EFFICIENT METHOD OF CULTIVATING BACILLUS LEPRÆ FROM THE TISSUES

WITH OBSERVATIONS ON THE DIFFERENT STRAINS OF ACID-FAST BACILLI FOUND IN LEPROUS LESIONS *

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In a previous communication[1] one of us (Duval) stated that the initial multiplication *in vitro* of the bacillus found in leprosy lesions is attended with considerable difficulty unless bits of the infected tissue are transferred to the culture-medium and special methods employed for the breaking down of the tissue protein. In other words, the removed tissue particles must be hydrolyzed before the contained acid-fast bacilli will multiply.

The difficulty in continuing the multiplication in subcultures occurs as soon as the digested tissue material has been exhausted. Therefore it is absolutely essential to substitute at some period in the process a medium which contains split products of protein digestion, such as the amino-acids, until the culture has accustomed itself to more or less saprophytic conditions.

Early in the work on the cultivation of acid-fast bacilli from leprous lesions it was noted that, in the removed tissue bits which had become contaminated with putrefactive bacteria, the contained Hansen bacillus multiplied in great profusion whenever the extraneous germs digested or softened the tissue. Under these conditions multiplication occurred regardless of the character of the medium employed and within a wide range of temperature.

This observation led to a study of the rôle played by such extraneous bacteria which established the fact that the multiplication *in vitro* of the acid-fasts was the result of a hydrolytic action on the protein with the attendant appearance of dissociate products. These products of tryptic digestion supplied the necessary nutrient for the lepra bacillus.

Undoubtedly this digestive action on tissue by extraneous bacteria explains the success attained by Clegg[2] in cultivating an acid-fast organism from leprous material which he seeded with amebas and their symbions, the bacteria and not the amebas playing the important rôle. Consequently the deliberate addition of various amino-acids to culture-media was resorted to.

Many of the necessary amino-acids, however, are often difficult to obtain and to prepare into suitable mediums. In view of this fact various nutrients have been experimented with in the hope of finding an efficient medium which would be practicable for this purpose and readily accessible to all laboratories.

Whereas the "hydrolizing method" is thoroughly efficient in establishing the initial growth and is possibly to be preferred where the specific organism is very scarce in the lesions, yet it entails the subsequent use of a special medium in order to obtain pure the Hansen culture. Therefore a medium which will recover the culture directly is certainly to be preferred under ordinary circumstances. Trypsinized egg-medium which was formerly employed for this purpose is of value, but not as certain in all cases as some of the other methods.

In the summer of 1911 one of us (Wellman) suggested the use of mammalian placental tissue extract as a nutrient that might be suitable for the purpose of cultivating *B. lepræ* and allied species which apparently require the dissociate products of tryptic digestion, since the tissue named has been found to be rich in the amino-acids.[3]

We therefore set about the preparation of a medium containing the untreated juice from human placenta in varying proportions and combinations and tested its value in the isolation and cultivation not only of *B. lepræ*, but of various highly specialized parasitic micro-organisms. So far the fluid extract of placenta alone or combined with glycerin-agar has served, in our hands, as an admirable culture-medium for the isolation of *B. lepræ*, *B. tuberculosis* and the acid-fast organism of rat leprosy.

The medium is prepared as follows: The fresh human placenta is thoroughly macerated and ground up in a meat-chopper, after the blood is washed out by sterile saline run through the attached vessels. To every pound of placental tissue there is added 0.5 liter of sterile salt solution. This mixture is now allowed to infuse for forty-eight hours at refrigerator temperature, when it is filtered through a previously tested No. N Berkefeld filter for purposes of sterilization. To facilitate the filtration the cylinder of the Berkefeld filter is filled with clean, fine sterile sand until the candle is completely submerged. The clear amber-colored filtrate is then tubed or added to a 2 per cent. sterile agar which has been previously melted and cooled to about 41 C. The placental juice and the agar are then thoroughly mixed and the mixture sloped. The addition of 3 per cent. glycerin possibly enhances its nutritive value.

With placental extract either in the form of a liquid medium or of glycerinated agar the acid-fast bacilli in the removed and macerated tissue bits from human or rat leprosy multiply to such an extent that in from five to seven days the growth is distinctly visible to the naked eye.

* From the Laboratory of Pathology and from the Laboratory of Tropical Medicine and Hygiene (Study No. 15), Medical Department, Tulane University.

1. Duval: Jour. Exper. Med., 1911, xiii, 365.

2. Clegg: Philippine Jour. Sc., 1909, iv, 403.

3. Wellman: Jour. Biol. Chem., July, 1911, ix, 471; Zentralbl. f. Physiol., xxv, No. 6, p. 267; No. 13, p. 514; No. 20, p. 963.

Not only the initial culture, but subsequent transplants, in the case of *B. leprœ*, flourish on this medium. The growth is profuse and moist and without pigment in some cultures, while others are distinctly chromogenic. The chromogens subsequently will grow on the ordinary laboratory media while the non-pigment-producers refuse to multiply on anything but enriched special media.

It is not the purpose of this paper to discuss or attempt to prove which of these types of cultures are or are not the causal agent in leprosy. Suffice it to say that the acid-fast bacilli seen in the human and rat leprous lesion can in all cases be cultivated where the special method above outlined is employed.

It is, however, of interest in this connection to point out what may be designated as a period of absolute parasitism which seems to persist for some strains of acid-fast cultures recovered from leprous lesions. We have cultures which do not, thus far, exercise saprophytic growth function, although many generations removed from the parent stem. On the other hand, there are among our cultures strains which at first grow slowly and only on special media, but which become more or less saprophytic after repeated subculturing over a period of months.

This decided difference in biologic features inevitably brings up the questions of their relationship to one another and of their etiologic significance. Do we encounter in the leprous lesion two or more distinct species or does the apparent difference merely represent separate stages in the life-cycle of an extremely pleomorphic organism? Again, it may be asked, are not the subsequent rapid growers extraneous saprophytes while the cultures which conform more to our ideas of a pathogenic species (by growing *in vitro* only under special conditions) represent the real etiologic factor in no way related to the first-mentioned form?

On account of the unreliability of serologic tests for the group of bacteria possessing a fatty or lipoid body (which holds for all the known species in this group) and to the difficulty in producing experimental lesions with the particular organisms under discussion, this problem is rendered difficult of solution.

In the hope of throwing further light on this important question we have undertaken a careful biologic study of representatives of the two types of leprosy organisms above mentioned. The results of this study will form the subject of a subsequent communication.

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Duty of Teaching Hygiene in Colleges.—It is a platitude that the fraudulent, worthless or harmless drugs, "remedies" and "treatments" are introduced to and used by a very wide public because of their very wide advertising in the newspapers, says A. W. C. Menzies in *Science*. There are, indeed, a few newspapers which will not print such advertisements, but these are honorable exceptions to the general rule. The government and medical association laboratories, whose analyses expose the nature of these drugs, do not similarly advertise their exposures in the public press, nor do they by their own publications reach a wide public. Under these circumstances has not the college, as a public institution, a duty to fulfil in spreading the truth? For all our colleges must be regarded as public institutions—state-aided colleges and universities most obviously of all. The colleges, therefore, are in duty bound, in partial return for public moneys expended on them, to contribute, by educating their students in hygiene, toward that most important factor of the public welfare, the public health.

CONTRIBUTION TO THE SURGERY OF BONES, JOINTS AND TENDONS

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(Continued from page 1365)

Shoulder.—The technic which was described in my article in 1902 is still adhered to. The skin and deltoid are split and its fascia is separated along its anterior margin for a distance of 4 inches, and elevated so as to expose the bony union between the glenoid and the head of the humerus. A curved chisel is then used to separate these and an additional excavation on the surface of the glenoid is made. An incision is then made at right angles to the original incision across the chest, over the middle of the pectoralis major muscle; a flap of fat, aponeurosis and pectoralis major muscle is then made, 4½ inches long and 3½ wide, with its pedicle left attached to the humerus. It is swung upward and interposed between the head of the humerus and glenoid, completely covering the bony surfaces. In lieu of this simple procedure, the following may be adopted, as described by Coville: He made a 4-inch incision, starting below the clavicle and passing external to the coracoid process, down along the arm, following the fibers of the deltoid muscle. This muscle is incised just outside of the deltopectoral groove, when the shoulder-joint will be found to be exposed freely. Coville then extracted the head of the humerus and divided it from the remainder of the bone, at the level of the anatomic neck. The long strip of deltoid muscle was cut transversely, the superior portion being left adherent. A piece 4 inches wide was taken from the transverse section and interposed between the head of the bone and the glenoid cavity.

Coville perforated the capsule with a probe so as to prevent wounding the musculospiral nerve, and made a counter-incision at the same level, passing a thread through this opening. This thread surrounded the extremity of the muscular strip in the form of a loop, and by tightening this loop the strip of muscle is applied to the articular cavity.

Besides using a muscle-flap in the manner described above, one may substitute and use as an interposing flap the anterior portion of the deltoid, inserting it anterior to the coracobrachialis and short head of the biceps. The result in Coville's case was an excellent one. Three days after the operation passive motion was instituted and eventually the patient, a woman, was able to sew, although abduction was limited.

The Elbow-Joint.—After the usual preparation of the field of operation, an Esmarch constrictor is applied high up on the arm. Formerly I made a vertical incision on the posterior surface of the arm, directly over the olecranon. I have since abandoned that procedure because of the fact that the contraction of the scar often interfered with free motion in the joint. I now prefer to make two lateral incisions, one on either side of the olecranon — although only one such incision may be necessary, depending on whether or not it is possible to work freely through an external incision without injuring the ulnar nerve.

If there is any danger of inflicting injury on this nerve, the second or inner lateral incision should be made. I always insist on finding the nerve, freeing it

from adhesions, and retracting it out of the field of operation.

The length of this lateral incision will depend on how much of an area one wishes to expose. As a rule, an incision about 6 inches in length is sufficient, although there is no reason why it should not be made longer if necessary. The incisions are made about one-half inch to either side of the olecranon, and extend through the skin and superficial fascia. The edges of the wound are then retracted widely so as to give easy access to the joint.

The interposing flap in these cases is taken from the aponeurosis of the supinator longus and from the fascia and fat on the inner side of the joint. The bases of these flaps are directed upward. The flaps are made sufficiently wide so as to cover the freshened surfaces of bone, and long enough so as to reach across from one side of the joint to the other.

ANKYLOSIS OF ELBOW

CASE 28.—*Patient.*—Miss L. H. S., aged 29, was admitted to Mercy Hospital Nov. 27, 1908. Family history was negative. She had had bilious attacks, occasional attacks of indigestion and chills and fever during childhood. In the fall of 1905 she had a nervous break-down and was sent west to recuperate. This attack she says had been coming on gradually, but was precipitated rather suddenly by an intranasal operation consisting, she thinks, of the removal of bone.

Present Trouble.—In March, 1906, she suddenly developed high temperature and had a sharp pain in left arm which kept her from sleeping. A physician was sent for at once and diagnosed the case as one of articular rheumatism. She was sent to the hospital two days later and an incision was made on the back of the arm just below the elbow on the tenth day. Serum only was evacuated. In about ten days the bone was scraped and the wound was kept open with drainage for six weeks, during which time it continued to discharge serum. That condition continued from March until June, during which time she was in bed, and when she recovered, her arm was absolutely rigid and slightly bent. After about a year, an attempt was made to flex the arm under anesthesia, and after that she could use the fingers and wrist, but the elbow remained stiff.

Examination.—There existed a bony ankylosis of the ulna and humerus and of the radius and humerus.

Treatment.—First operation was done in November, 1908. A typical arthroplasty of the elbow was done, dividing the olecranon from the shaft. A long fascial flap was taken from both of the triceps muscles and inserted between the ends of the bone. Then the olecranon was wired back in place with phosphor-bronze wire. Passive motion was instituted at the end of two weeks to stretch the wire and permit of separation of the approximated surfaces of the olecranon. This allowed the acute angulation of the olecranon to the ulna, and made a cup-shaped trochlea. The tip of the olecranon and coronoid limited motion. There was no return of the bony ankylosis. At the second operation, May, 1909, the tip of the olecranon was removed and also the tip of the coronoid process, so as to make the normal curve of the trochlea. Primary union occurred. Since that time she has been able to flex and extend her arm fully and painlessly. She does not know, except from a very slight limitation of pronation and supination that she has ever had any trouble in the elbow.

Result.—It is a perfect functional result (Figs. 114-117).

The ankylosis in the case of the elbow usually exists between the olecranon process of the ulna and the humerus. This is carefully divided by means of a curved chisel, twisted laterally, until free mobility of the joint is secured. In our earlier work I thought it advisable to separate the olecronon with its muscle attachment and retract it upward so as to expose the interior of the joint. I no longer find this to be necessary, except in unusual cases.

Sometimes there is a bony ankylosis between the head of the radius and the lesser sigmoid cavity. When this exists it also is chiseled free, the bony deposit is removed, all exostoses are cut away and absolute freedom of motion is secured. If necessary, the olecranon fossa may be deepened, so that the extension of the arm may be complete. Ample bone should be removed from the humerus and radius to permit of free flexion and extension *without force*, and the anterior capsule of the joint fully and completely divided.

Having secured the desired mobility of the joint and having freshened all bony surfaces, the next step in the operation is to place and secure the interposing flaps. As stated before, these flaps are drawn into the joint

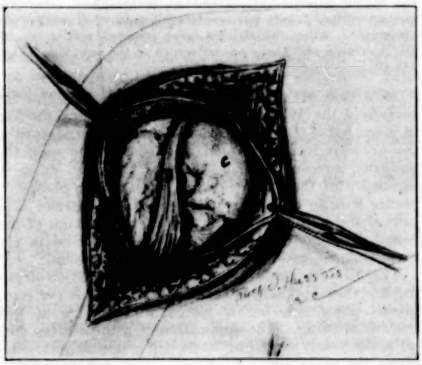

Fig. 123.—Author's operation for recurring luxation of the shoulder-joint. Incision anterior to bicipital groove, through deltoid muscle, exposing the joint. A. Capsule split open. B. biceps tendon in bicipital groove. C. head of humerus.

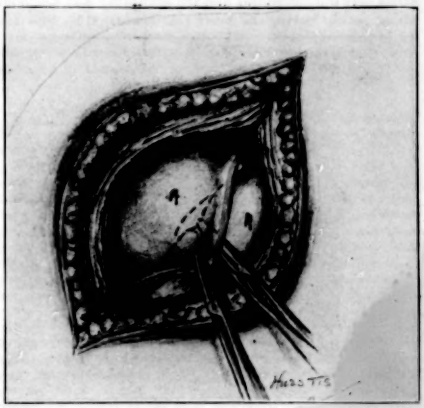

Fig. 124.—Overlapping or imbrication of capsule so as to reduce capsular tissue to desired amount, thus increasing retentive power, so as to prevent luxation of humerus.

and secured on all sides with interrupted phosphor-bronze wire and chromicized catgut sutures. The ulnar nerve which was exposed at the commencement of the operation, so as to protect it from injury, is now replaced in its groove and surrounded by fat. The remainder of the operation consists of the steps already described, such as closing the wound and applying the powder and dressings.

The elbow is immobilized at an angle of about 30 to 40 degrees, and a posterior and lateral three-fifths plaster-of-Paris cast applied. At the end of from five to seven days the cast is taken off twice a day and passive motion is instituted. At the end of ten days the cast can be removed permanently and the arm carried in a sling. The patient is encouraged to make active and passive motion, and, if necessary, is ordered to carry sand-bags or other weights for the purpose of securing as much extension of the arm as is possible. Massage may now be of service in increasing the function of the joint. It should never be severely painful or prolonged.

Wrist.—In the case of wrist-joint ankylosis, which exists between the radius and the semilunar and scaphoid

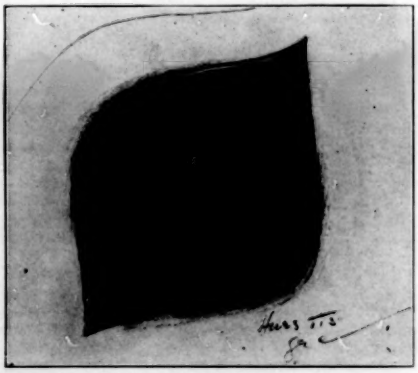

Fig. 125.—Capsule sutured, to be followed by usual closure of wound.

bones of the carpus, a straight incision is made over the posterior surface of the head of the radius, extending from an inch to an inch and a half above and below. The length of the incision will depend on the ease with which the seat of the ankylosis may be brought into view. This primary incision extends through the skin and superficial fascia, as is usual in these arthroplasty operations. The flap is taken from the deep fascia and the joint capsule. It is U-shaped, with the base directed upward, and after the ankylosis has been freed by means of the chisel, and the natural conformation of the parts has been restored, this flap is pushed down between the carpal bones and the head of the radius, after one has satisfied himself that the motion in the joint has been restored.

ANKYLOSIS OF WRIST

CASE 29.—*Patient.*—Mrs. R. C. B., aged 48, was admitted Sept. 29, 1911. Family history was negative. She had had mumps eight years ago and pneumonia when a child.

Present Trouble.—In July, 1910, she felt indisposed during the day, and at night had a slight chill, accompanied by vomiting and fever. The next morning she felt stiff and sore and remained in bed. She had no definite pain. That evening her joints began to swell, the left elbow, wrist and phalanges; then right wrist and phalanges. They were red, tender and painful. The next day the right ankle, then the left, both knees and right shoulder gave trouble. The left shoulder and elbow were not affected. She was in bed for two months with high temperature, and was unable to move. Resolution followed in all the joints except the right shoulder, wrist and fingers of the right hand. The right forearm and shoulder were put in a cast for a month. The fingers and wrist were much swollen and edematous for seven months. The shoulder became stiff. The adhesions were broken up under anesthesia, and there has been no further trouble in that joint. The fingers and wrist became stiff after seven months and have remained so.

Examination.—There was ankylosis between the radius and scaphoid bone. Blocking of the latter prevents flexion. The scaphoid appeared to be free.

Treatment.—An incision was made over the end of the radius on the back of the arm and a flap of superficial fascia and fat was elevated. The union between the radius and scaphoid was exposed, separated with a chisel and ⅓ of an inch of bone removed. The fascial flap was interposed between the radius and the scaphoid in such a way as to produce a complete separation. It was fixed by suturing the base of the flap across the line to the upper surface of the fibrous capsular attachment of the scaphoid. Primary union resulted. There was considerable pain when motion was attempted. After the stitches were removed motion gradually increased and there was no return of the ankylosis (Figs. 118-120).

As a rule, it is not necessary to expose the anterior surface of the joint for the purpose of suturing the flap in place, but if this cannot be accomplished satisfactorily, the anterior incision should be made. When only the posterior incision is made, the flap is tucked down to the depth of the wound and is sutured with phosphor-bronze wire to the posterior layers of the anterior capsule of the joint, and laterally to the periosteum of the bone. The capsule of the joint is then closed in the usual manner and likewise the external incision.

The bismuth subiodid powder and a collodion dressing are then applied, and over this a moist 5 per cent. phenol gauze dressing is placed, and outside of this the dry dressing. The application of a three-fifths dorsal plaster cast, extending to the tip of the fingers, completes the operation.

The cast is removed temporarily in from five to seven days, and passive motion of the joint is instituted. After the lapse of ten or twelve days the cast may be left off, so that the patient can follow the usual instructions with reference to the use of this joint.

I wish again to emphasize at this juncture the value of the trochanteric fascia as an interposing flap, in the performance of an arthroplasty on any joint. I have shown in my work, and it has also been shown by others, that the transplantation of free flaps of fascia is not only possible, but productive of the very best results. I favor the trochanteric fascia, or what I have referred to several times as the fascia lata, with the trochanteric bursa. It serves a most useful purpose when it is impossible to secure efficient tissue elsewhere in the vicinity of the joint, to supply as an interposing flap, and if this is borne in mind the arthroplasty cannot fail to be entirely satisfactory. Ankylosis will not recur if sufficient tissue is interposed between the ends of the bones; and if this cannot be obtained from the adjoining tissues, it may be taken from elsewhere, and especially from the fascia lata.

These autogenous flaps are applicable not only in the case of very thin patients who possess little subcutaneous

fat, but also in that large class of cases where previous disease, infection and drainage have left practically no free tissue in the vicinity of the joint to be operated.

This is especially true of ankylosis following tuberculosis of the hip, knee and ankle, complicated with mixed infections.

The Jaw.—This is a particularly advantageous flap for mandibular ankylosis because it may be placed in any position and it is practically impossible to secure a flap in that region.

By making an anteroposterior, bow-shaped incision, with the convexity downward on one side, at the point where the neck begins to spread out into the broad angle, and a transverse bow-shaped division of the other side, with the convexity directed downward, the articulations are prevented from becoming displaced laterally subsequently, and no risk is run in dividing the bone or of injuring (a) the facial nerve or (b) the temporal bone. The incision should be made from the posterior margin of the ascending ramus, displacing the facial nerve and parotid gland. It is quite difficult to make this arthroplasty with the temporomuscular flap, and particularly so in cases of ankylosis existing from infancy or early childhood, with aphasia of the mandible.

In 1898 I operated in a case of this kind in Mercy Hospital, and found the technic exceedingly trying. The patient was a young man about 24 years of age, in whose case the ankylosis had resulted from a fall on the chin when he was three years old. There was considerable aphasia of the bone.

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ANKYLOSIS DUE TO CAPSULAR CONTRACTION OR FIXATION

This will be taken up under heading of tenoplasty, capsulotomy and muscular and cutaneous plasty about joints.

PROGNOSIS OF ARTHROPLASTY

1. Perfectly movable, normally functionating joints with sliding and rotary motion of the normal type, can be reproduced.

2. A new synovialoid membrane is produced with fluid not synovial, but resembling synovial fluid, and lining cells identical with those lining the hygromata, and closely resembling the endothelial cells of normal synovial membrane.

3. These joints support full weight and traction.

4. They are painless once the process of repair is complete.

5. They are not subject to the hematogenous metastatic arthritides of normal joints.

6. A fibrocartilage-like structure develops from the end of the bone, and the latitude of motion increases with time up to the full anatomic limitations in the uncomplicated cases. The production of new joints is not difficult technically, nor is it associated with great danger to life. The many details in the interposition of the flaps are essential, and must be systematically carried out to achieve the best results. Asepsis is absolutely necessary and essential.

DISLOCATION OF LEFT INTERNAL SEMILUNAR CARTILAGE

CASE 31.—*Patient.*—R. B., aged 24, was admitted to Mercy Hospital March 21, 1911. Family history was negative. The patient had ordinary diseases of childhood, including scarlet fever and diphtheria; malaria six years ago.

Present Trouble.—Aug. 1, 1910, during a ball game, while attempting to catch a high ball, he fell, throwing his weight on left leg. The leg and foot turned out; he experienced severe pain in the left knee-joint, which was increased on exercise or motion. On August 31, while attempting to throw a ball, placing his weight on the left knee, he fell and suffered pain in the joint. For ten or fifteen minutes he could not bend his knee or straighten out the leg. He was soon able to walk, but a sidewise movement or exercise gave him a kink or lock in his joint. Oct. 8, 1910, he again had severe pain in the joint and it locked for ten or fifteen minutes and since then he had had pain in the knee off and on. There had been some swelling of the joint. March 11, 1911, the same thing occurred and other attacks followed since this time.

Treatment.—The knee-joint was injected with 20 c.c. of a 2 per cent. dilution of liquor formaldehydi in glycerin and a 20-pound Buck's extension applied afterward. This was done for the purpose of producing a chemical synovitis preparatory to opening the joint. This synovitis cofferdammed the lymph-spaces very materially, thus lessening the possibility of infection occurring and, above all, preventing effusion after the arthrotomy. Seven days later the knee-joint was opened and the semilunar cartilage removed through an L-shaped incision. The joint was not touched with sponge or instruments. The cartilage was fractured in an oblique direction from within outward and backward. It was removed. The capsule was sutured accurately. A Buck's extension with 20 pounds weight was applied.

Results.—There was no effusion following the operation; no pain; primary union. Examination made toward the end of February, 1912, showed that there was perfect motion in the joint, no pain or inconvenience. The patient has resumed his occupation of baseball player, for which he was totally incapacitated by the original luxation. (Figs. 104-106.)

FRACTURED SEMILUNAR CARTILAGE

CASE 32.—*Patient.*—C. D. W., Danville, Ill., farmer, aged 39, was admitted to Mercy Hospital Nov. 22, 1910. Family and personal history were negative.

Present Trouble.—Eight years ago he twisted his right knee while stepping from a street-car. He had no pain at the time. Three hours later the knee was a little sore and four days after the injury the knee began to swell rapidly so that the patient was unable to use the leg. There was much pain. He used crutches for four weeks and then a light plaster cast was applied and left on for eight weeks. The pain and swelling disappeared. When the cast was removed he used the limb but says that fluid soon began to accumulate again. Eight months after the removal of the cast a considerable quantity of clear fluid was removed from the joint by aspiration. In six months it was aspirated again, and again a year later. After the third aspiration the joint was injected with a 3 per cent. phenol solution and six months later another injection was made with 5 per cent. phenol. The fluid in the joint accumulated less rapidly after these injections but always reappeared in time. Seven years afterward the joint was injected by me with formaldehyd and glycerin and since then there has not been any reaccumulation of fluid. He occasionally has severe pain in the joint lasting for a few minutes, the result of sudden shakes or twists.

He has had recurrent attacks of pain of the locking type, even after the effusion had ceased to form. It was decided, therefore, to remove both the external and internal cartilages.

Treatment.—The knee-joint was opened as in the previous case and the internal semilunar cartilage was split from within forward and outward and lifted out. A fringe on the cartilage extended well into the joint. The external semilunar cartilage had its periphery thickened. This was probably because of the general thickening, the plastic synovitis, that was present throughout the joint. The cartilages were removed. Primary union.

Results.—Examination made on April 4, 1912, showed a perfect joint, full motion, no pain at any time since the operation.

No Closed Verdicts in Medicine.—There is no such thing in medicine as a *chose jugée;* no single verdict ever found but is open to revision if the evidence is satisfactory.—H. G. G. Mackenzie in "Medicine and the Church."

TENDON TRANSPLANTATION AND SILK INSERTS

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To-day there are two distinct operative procedures in replacing tendons to restore function and prevent or correct deformity following an attack of infantile paralysis. These two procedures are:

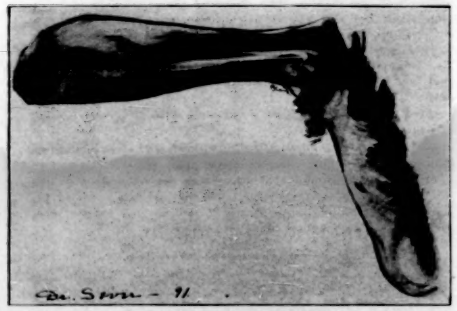

Fig. 1.—Experiment 3. Drawing of gross specimen. Skin not adherent to underlying tissues. Note complete regeneration along line of Pagenstecher of a new "tendon" apparently as large as normal. This "tendon" functionated perfectly. Time, four and one-half months.

1. Tendon transplantation *per se*, that is, the transplantation of a normal tendon from its usual position to the place of the paralyzed one. It is of course understood that this operation is not of use when all the muscles of a part are paralyzed, and any severe coexisting deformity must be corrected first before any tendon transplanting is undertaken. This latter procedure is the so-called preliminary *redressement*.

2. Tendon regeneration—the method in which silk strands are inserted to supply the loss of the paralyzed muscles, to lengthen normal tendons for the purposes of using them in transplanting, and to reinforce joints as artificial ligaments, in place of arthrodesis.

Before taking up the question of silk inserts I will review the history of tendon transplantation, so that the distinction and differences between the two procedures may be clearly seen.

The operation of tendon transplantation originated with Nicoladoni, in 1880, who sutured the distal ends of the peronii to the insertion of the tendo Achillis. Soon afterward the operation was done in this country at the Children's Hospital, Boston.

There are two methods of operation, the Nicoladoni method, in which the healthy or functioning tendon is sutured to the paralyzed or non-functioning tendon, and the Lange method, which was originated by Drobnik and enlarged on by Lange, in which the healthy tendon is sutured to the point of insertion of the paralyzed tendon by stripping off the periosteum at that point or at a point near by. In this way one may not only get a choice of insertion to increase mechanical efficiency, but one also secures a more permanent and a stronger attachment.

Vulpius and Lange agree that the descending type of transplantation is the better one to use, that is, separating the functioning muscle or tendon from its fellows and pulling it down to its point of insertion. Vulpius, however, states that he does not believe in periosteal insertions, and advises sewing directly to the paralyzed tendon, the distal end of which he claims does not stretch and which soon regains its normal strength, giving quite as strong an attachment as periosteal insertions. This, however, has not been found to be the case. He does not believe in lengthening tendons with silk if it is possible in any way to avoid its use, for he states that there is left in the wound a large foreign body which tends to cause sepsis and adhesions.

Experiments on a cadaver of a child have shown that tendons attached to tendons broke under a pull of from 2 to 3 kg., whereas tendons attached subperiosteally required a breaking force of from 14 to 15 kg.

There are several modifications of the periosteal insertion. Müller, for instance, bores a hole in the bone and anchors the end of the tendon there. Wolff makes a groove in the bone under the periosteum, sutures the tendon in it, and then closes the periosteum over it. Sherman, of San Francisco, has tried suturing the tendons with silver wire to the bone, and then passing the wire through the plaster-of-Paris bandage until union has become firm. McCurdy, of Pittsburgh, who has experimented with this method, has found that it is not necessary, as union generally takes place readily without slipping provided the sutures are well placed and carefully tied. This method seems rather clumsy.

In transplanting tendons the whole tendon is generally used, but a tendon may be split longitudinally and the slips thus made used for different purposes.

Fig. 2.—Experiment 3. Low power. A longitudinal section of the regenerated tissue, the twisted Pagenstecher strands in the middle, with the proliferation at its outer edges, partially invading the Pagenstecher. The proliferation comes from the tendon sheath and probably from the peritendineum, and is composed of dense fibrous tissue externally and of endothelial leukocytes adjacent to the Pagenstecher.

Lange states that the tibialis anticus tendon is the only one which can be successfully treated in this way, but this has not held true, for, as an example, slips from either side of the tendo Achillis have been brought forward and inserted into the cuboid and the scaphoid with good results, in this way making two flexors. As a general rule, however, it is better in transplanting to use muscles or tendons which have the same function as the

paralyzed muscle, but when this is not possible flexors may be attached to extensors and vice versa.

In suturing tendons to tendons a slit is made in the paralyzed tendon, and the other passed through this opening and sutured, or if the tendons are adjacent they may be laid together and stitched, without dividing the paralyzed tendon. The distal end of the non-functioning tendon may be sutured to the functioning tendon also by an end-to-end anastomosis. In this and in the subperiosteal method, however, the limb must be in the

Fig. 3.—Experiment 4. Side view of regenerated process. Time, four and one-half months.

corrected or slightly overcorrected position, and the transplanted tendon must be on a stretch, to insure a good functional result. It is well to avoid turning corners, as this decreases the mechanical force, and one should make a new channel for the tendon, using as direct a line as possible.

SILK INSERTS

The method of using artificial tendons was first carried out in 1875, by Auger, who used a piece of silk to supply the loss of a tendon. Gluck, in Berlin, was the first to repair deficiencies in tendons with catgut, but found that the material absorbed too soon to insure good results.

Lange, in 1899, introduced a silk tendon in an operation for the transplantation of the quadriceps. Since then it has been used in many cases by many men, not only for lengthening tendons, but for purposes of fixation of a part or joint in place of arthrodesis, and to insure stability.

The tendon sheaths should be sewed up if possible, for their preservation is of the greatest importance. Lange drains his wounds for forty-eight hours with gauze or silk thread which has been soaked in a 1-to-1,000 corrosive sublimate solution. He ties a thread to the end of the wick, which is then carried outside under the plaster, so that by pulling on this thread after the expiration of forty-eight hours he can remove the wick without cutting the plaster. It is important that too great tension is not put on the skin sutures, for in doing this sloughs may result.

Vulpius sews his wounds up tight without a drain, and states that in this way he has obtained better results.

Care must be taken in using silk that too great tension is not used in lengthening tendons, as the silk may cut through the skin and impair the result. In preparation the silk should be boiled in 1-to-1,000 corrosive sublimate solution instead of in water as usual. Lange now dips the silk in boiling paraffin just previous to using, which gives it a smooth coating.

The new tendon forms along this silk, the paraffin becoming absorbed and replaced with connective tissue. The greater the hemorrhage and the more frequent the occurrence of sepsis the more delay is there in the healing process, and the new tendon is more fibrous than would otherwise be the case.

Wadehake, of Bonn, has used for buried sutures a silver-rubber-silk suture, which is very strong, does not absorb watery fluids and is absolutely sterilized in the making. The foundation is silk, which is soaked in a 1 per cent. silver solution and then in a solution of rubber in chloroform, after which it is boiled in a 1-to-1,000 corrosive sublimate solution for one hour. This suture has all the good qualities of silk and silver wire, with none of their drawbacks.

The limb must be put in plaster in an overcorrected position and kept that way for eight to ten weeks, when a retentive apparatus is to be worn for several months, followed by exercise and massage.

CAUSES OF FAILURE

There are several causes of failure:

1. The improper selection of cases in which the greatest possible improvement has not been obtained by other measures, that is, in cases of premature operation.

2. The cases in which the existent deformity has not been overcorrected a sufficient length of time to allow the actual condition of the muscles to appear.

3. In errors in planning and executing the operation, such as inexact determination of the extent of the paralysis, insufficient attachment of the implanted tendon, insufficient tension, and the formation of postoperative adhesions.

TENDON REGENERATION

The pathology of tendon regeneration along silk had never been studied, for few cases came to autopsy, and

Fig. 4.—Experiment 4. Low-power longitudinal section. Infiltration of silk with fibroblasts from new-formed connective tissue about the silk.

many asserted that the silk inserted in these cases was eventually absorbed.

Lange, in 1902, reported the findings in one case of a man, two and a half years after operation, in which the quadriceps tendon had been lengthened by silk strands, which were inserted into the tibia. He stated that he found a "tendon" as thick as a lead-pencil running in the subcutaneous fatty tissue, surrounded by a layer of loose movable connective tissue. There was no true "tendon"

sheath present. The newly formed "tendon" was a tough, bluish, round string, about the color of the joint capsule. The silk threads were not destroyed, but had become infiltrated by the new growth.

Lange stated that microscopic examination showed in the central portion of the new "tendon," closely applied to the silk threads, a layer of tissue apparently identical with that of normal tendon, i. e., connective-tissue fibers were arranged parallel to each other, while elastic fibers and blood-vessels were almost wholly absent. In the peripheral portion of the "tendon" there were cells and fibers like those of true tendon, but, in addition, blood-vessels and fat-cells were found here and there. The silk fibers, 12 cm. long, lay in a mass consisting of tendinous tissue, whose wall was from 2 mm. to 3 mm. thick, and whose lower end ran into the periosteum of the tibia.

This finding was of great interest, but his histologic description was not sufficiently accurate to settle whether or not the new tissue forming along such silk strands is true tendinous tissue or is merely fibrous connective tissue taking up the function of tendon. It is probable that no true tendon sheath is regenerated around one of these tendons formed where it has been destroyed or where no sheath originally existed.

Fig. 5.—Experiment 6. Result at end of two months, following resection of tendo Achillis. Note gap between belly of gastrocnemius and os calcis. There was no regeneration of the tendo Achillis. Sections showed nothing of importance. In this case nothing was used to bridge the gap in the resected tendon. The sheath was left flat and open. This shows the importance of the presence of the sheath and peritendineum in regenerative processes, for in this case there was no regeneration of the tendo Achillis.

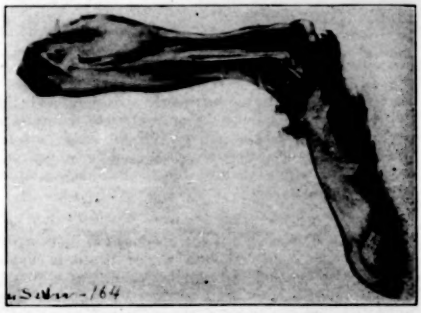

Fig. 6.—Experiment 7. Tendo Achillis excised for 1¼ inches. Tendon sheath closed. Skin sewed with continuous Pagenstecher. Cat killed at end of two months. Sections showed normal tendon regeneration. Nothing was inserted in this case to take the place of the resected tendon, but the sheath was closed. For contrast see Figure 5. Note spindle shape of tendon similar to bone callus.

Besides Lange, Borst, Seggle, Rydgier and Vulpius have done animal experiments on the use of silk in tendon suture, and Vulpius and Lange, from secondary operations, have been able to see the gross results of their primary efforts.

An attempt was made to create a new tendon sheath by Ritter, who, in 1908, working in Payer's clinic in Greifswald, used veins taken from animals. He enclosed a stump of the tendon in the ends of the vein, and so formed a new artificial sheath, along which the new tendon could grow. In Lange's case, however, a condition was found in which only connective-tissue regeneration took place, which led to the formation of a kind of a tendon mass through and along which the silk slides as a working tendon.

Seggle, who has done some interesting research work on tendon regeneration, states that the new tendon is developed after tenotomies by a process of organization of the blood which is poured out from the cut sheath and divided tendon.

Following tenotomies the healing process is as follows: According to Seggle, on the tenth day the inner layers of the tendon sheath consist of long slender spindle-cells, with marked fibrillations. By the thirty-eighth day the regeneration extends to the whole cross-section, and by the fiftieth day the climax of the regenerative process has been reached.

Mencière, in 1906, working in an experimental research on the creation of artificial tendons and its application to the human being, used silk thread, folded on itself like a skein, and attached by single threads of this skein at each end to the ends of the resected tendon. He obtained a normally functioning muscle attached to the new muscle in about two months after the tendon operation.

Six months after the operation he killed the animal he used for the experiment, and, in examining the new tendon, found that it was much larger than a large lead-pencil and very much larger than the corresponding normal Achilles tendon of the opposite leg. In gross appearance it was normal, i. e., looked like tendinous tissue, "but there was no tendon sheath present."

He stated that the silk thread had become "penetrated, absorbed and replaced by a formation of fibrous tissue, and in place of an artificial tendon of silk there was found a living tendon of fibrous tissue." His statement that the silk is absorbed, of course, does not seem possible in view of the findings of all other investigators, for it is well known that silk is not absorbed by any tissue, but may become thoroughly permeated by new fibrous or tendinous tissue to such an extent that it is well hidden. Mencière had made no microscopic sections, and, if he had, would unquestionably have found the silk imbedded in the new growth.

Anzilotti (Pisa) reported at the Italian Surgical Society in September, 1906, the results of some of his experiments. He found that the sheath played an important part in the integrity and regeneration following tenotomies.

Vulpius uses silk at times for lengthening tendons, but does not think that it should be considered a normal

proceeding. He does not think that a foreign body such as silk should be introduced except in cases of absolute necessity. In only rare cases is an artificial tendon absolutely indispensable.

Froelich believes that the use of an artificial tendon gives no satisfaction. He believes that they become infected, either immediately or late, and often cut through the skin on account of muscular contractions. It is the exception when they are successful, and that they form an unusual experience without any practical value.

Alexandro Guaccero, in a communication before the Italian Orthopedic Association at Rome in October, 1908, described a number of experiments which he did on rabbits with a view to showing the normal processes of repair at different stages following tenotomies. In some cases he also inserted silk to take the place of the resected tendon. He stated that in some cases after ninety days the silk was "absorbed"; also that when the sheath was removed the regeneration was fibrous and along the line of the silk. This finding in regard to the absorption of silk is, of course, erroneous. A careful preparation of his microscopic sections, combined with an intelligent study of them, unquestionably would have shown the silk present.

Muller, in Philadelphia (1906), reported the result of some observations on dogs in which he replaced the tendon by a silk cord, and found that the tendon was replaced by a fibrous band, which allowed good function.

These are the opinions of those who have used this procedure early, that is, before the technic was perfected, and before experience had shown the method to be of great value, and of general use in many cases.

The details of normal tendon repair I will cite briefly, so that the reader may be familiar with the process.[1]

"The process of repair of a tendon that is simply cut without breaking the continuity of the tendon sheath is as follows: Hemorrhage into the interval between the ends of the cut tendon, which is followed in due time by an inflammatory exudate. This exudate infiltrates the surrounding tissue, including the tendon, for a considerable distance about the wound. This exudate, which consists of leukocytes, serum and fibrin, organizes, that is, it is replaced by granulation tissue which arises by proliferation of the cells of the peritendineum, the septa and the inner layer of the tendon sheath, and practically not at all from the inner part of the tendon. The granulation tissue which arises from the peritendineum, the septa and the sheath cannot in the early stages be distinguished from the ordinary granulation tissue which arises from any unspecialized connective tissue, but it has one important difference, namely, it tends to form a dense and but slightly elastic connective tissue, closely resembling normal tendon.

"The blood-vessels which are found in this mass of granulation tissue arise in part from the blood-vessels of the tendon sheath. The mass of granulation tissue thus produced is much larger than the diameter of the original tendon, and forms a fusiform mass surrounding the cut ends. As the process goes on, the cells become spindle-shaped, and a very large amount of intercellular material is formed. The blood-vessels begin to disappear early, and in small tendons they are almost wanting at the end of two weeks. With this disappearance of the blood-vessels, the size of the original mass of granulation tissue diminishes."

In order to establish a definite pathology of tendon regeneration about silk certain experiments[2] were undertaken on cats for the purpose of studying the gross and microscopic appearances at various intervals after operation.

EXPERIMENTS

In all there were performed thirteen operations on as many cats, eleven of which turned out satisfactorily, but two could not be used for this purpose, on account of the animals dying too soon after the operation for purposes of useful study.

The first cat was killed at the end of a week, the second at the end of two weeks and the third was kept in a plaster cast for four months. Then he was allowed to run about without the cast for four weeks more before being killed, so as to permit active use of the muscles and tendons. The fourth cat was kept in a plaster cast, applied only to the leg operated on, for four months, and then killed. The fifth was killed at the end of fourteen weeks, after having had the leg in a plaster cast, but being allowed to run about, as, in fact, all the cats were while in and out of the casts. The sixth was killed at the end of eight weeks and the seventh at the end of a similar period. The last four were all killed at about

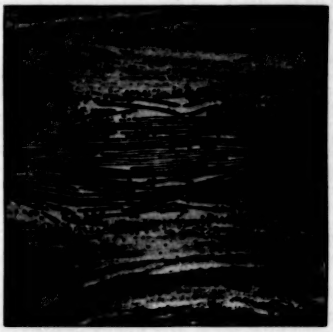

Fig. 7.—Section (low power) 14. Shows a low-power drawing of a piece of silk thread surrounded by apparently normal tendon. The silk, it should be noted, is not greatly infiltrated by the tissue, although there are a few cells among the fibers, presumably old ones, left from the original inflammatory reaction at the time of insertion. The tissue about the silk is the fascia lata and the condition is very similar to the one shown by Lange's sections, where the site of the operation was practically the same. The silk was slightly adherent to the surrounding tissue. This silk had been *in situ* about two and a half years, showing that there is very little probability of its becoming absorbed.

three weeks after operation for purposes of control study to the work which we had previously carried out.

A study of the gross and microscopic specimens from these experiments shows a number of very interesting facts, some of which have already been mentioned. It is perfectly evident that although the inserted silk serves as a matrix, around which dense fibrous tissue forms, it also acts as a more or less inert foreign body. Contrary to the usual belief, the silk does not become infiltrated to any great extent with the new growth surrounding it, but acts as a guide to the regenerative process, whether that process is tendinous or fibrous. Some of these sections (Fig. 7) show silk which has been in the tissues for two and a half years without any marked signs of infiltration or absorption. The gross specimen from which these sections were made showed the silk apparently as large and strong as at the time of insertion, and

1. Richardson, F. L.: Tendon Suture, Boston Med. and Surg. Jour., May 25, 1911.
2. Laboratory of Surgical Pathology, Harvard Medical School. Dr. E. H. Nichols, Director.

quite distinct from the new tissue about it. If silk were ever absorbed, one would suppose that it would be so at the end of two and a half years. The silk in the gross specimen was adherent to the dense fibrous tissue about it and moved with it.

It should be noted that the proliferation of new "tendon," i. e., true tendon tissue, comes wholly from the peritendineum, which is the all-important structure. The importance of the presence of this structure can be observed by noting the contrast between Figures 5 and 6.

CONCLUSIONS

1. Tendon transplantation *per se* is at times useful.
2. Tendons lengthened or reinforced with silk are better in that they are not only stronger, but also can be used to greater mechanical advantage.
3. Silk or linen thread is an excellent material to use to lengthen tendons in suitable cases.
4. The growth of new tissue will penetrate and permeate the silk only slightly (in some cases not at all), and does not absorb it.
5. When the peritendineum and tendon sheath have been removed, some foreign body is essential for regeneration, to serve as a director for the new growth.
6. With the sheath and the peritendineum present and sutured, no foreign body need be inserted. In this case the new growth is true tendon tissue.
7. Without the presence of the sheath and the peritendineum, no true tendon tissue can be regenerated. Such tissue is merely fibrous tissue, lacking elasticity and subject to stretching.
8. The new "tendons" are apt to be larger and stronger than the resected ones, especially when silk has been used to replace the resected portion.
9. Provided the sheath and peritendineum are preserved and function allowed early, adhesions may not occur. Without the sheath, adhesions may and do occur much more frequently.

234 Marlborough Street.

FURTHER ACCOUNT OF A PREVIOUSLY REPORTED CASE OF THE ISCHEMIC PARALYSIS AND CONTRACTURE OF VOLKMANN

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DENVER

At the 1906 meeting of the American Medical Association, held in Boston, it was my privilege to present a communication on the ischemic paralysis and contracture of Volkmann, reporting at length a typical case which had come under my observation some twenty-two months previously. The history of this case[1] will not be repeated here. The patient remained in the Denver City and County Hospital for some six months, being under the neurologic care of Drs. Edward Delehanty and S. D. Hopkins. I saw him frequently. In December, 1906, sixteen months after he was first seen by me, he reentered the hospital in the service of one of my colleagues. At this time the median and ulnar nerves were freed[2] at the upper part of the forearm. At a later day the flexor tendons were lengthened at the front of the wrist. According to recent, carefully obtained statements from the patient, these operations did not improve his condition. The forearm and hand became hard, fibrous, atrophied; the fingers and hand came down into a useless claw.

This patient consulted me again in my office Jan. 2, 1912. He said that during the last three or four years the limb had become more and more painful, the fingers and thumb more and more fixed. He desired advice regarding the removal of the hand, saying that it seemed to him to be a painful, useless, hopeless member.

Examination.—The right forearm and hand were markedly atrophied. The circumference of the affected forearm at its middle was 5⅝ inches; at the same point at the opposite side the circumference was 9 inches. The interosseous tissues of the hand and forearm seemed to form a hard, fibrous mass. The skin of the forearm and hand was of a bluish-red color; that of the opposite side was normal. The forearm and hand were cold to the touch; the opposite side was warm. Flexion and extension at the elbow were complete. The forearm bones were fixed in nearly extreme pronation; they could not be rotated. There was a trace of motion at the wrist, but there was no motion whatever of the fingers or thumb; these were fixed in extreme flexion, the thumb being doubled under the fingers (see illustration). The end of the thumb touched the skin of the hand and the thumb-nail was turned in and under. There was a chronic, trophic ulcer of the little finger. The middle finger was dark, bluish-black, this condition having appeared within a day or two previously.

Condition of limb Jan. 2, 1912. This picture may be contrasted with that in the author's original paper (see Note 1).

Amputation.—Dr. George B. Packard, professor of orthopedic surgery in the University of Colorado, and Dr. Howell T. Pershing, professor of neurology in the same institution, were asked to see the patient in consultation. Both agreed that amputation of the limb was necessary and salutary. The limb was therefore amputated at a point a little above the middle of the forearm (St. Luke's Hospital), Jan. 3, 1912. No tourniquet was used. The skin on division retracted but little. All tissues between the skin and the bones were fused into a hard, shrunken, fibrous mass; these tissues failed to contract in the slightest on division. The radial and ulnar arteries squirted moderately and were easily picked up and ligated. The interosseous artery bled slightly. With no inconsiderable difficulty these fibrous tissues were pushed up from the bones and the bones divided, leaving ample covering. It was impossible to recognize any nerve-tissue in the face of the stump. Ordinary suture without drainage. Smooth healing. There was moderate pain in the stump after operation; this disappeared at the end of a week. At this date (March 24, 1912) the stump is sound and in all ways excellent.

I was in doubt as to whether a good stump could be obtained where the division was made, but it was obtained and I am gratified that it was possible to preserve the upper part of the forearm.

The amputated portion was handed to Dr. Ross C. Whitman, professor of pathology in the University of Colorado, whose report is as follows:

1. THE JOURNAL A. M. A., March 2, 1907, p. 759.
2. See later report made on this same case by L. Freeman, Tr. Am. Surg. Assn., 1907, p. 288. Case report No. II. Notation made to avoid duplication. A procedure apparently first advised by Hildebrand (Deutsch. med. Wchnschr., 1905. Lexer-Bevan, General Surgery, p. 565). In my original paper I believe that I was myself in error in giving the impression that improvement had followed operation.

REPORT OF PATHOLOGIST

Gross Appearance of Specimen.—A right hand from an adult; amputated 6 or 7 cm. above the carpus. There is a linear trophic ulcer on the palmar surface of the distal phalanx of the little finger, 1.2 by 0.2 cm. The hand is in a rigid posture, which cannot be overcome by any reasonable force, with all the fingers flexed at all joints, but most at the metacarpophalangeal joint.

Dissection.—The radial and ulnar nerves cannot be found. The radial artery is found without difficulty. It appears to be slightly smaller than normal, but the walls are not thickened. The tendons and synovia at the wrist are apparently normal. They can be moved freely over the joint by alternate traction above and below the joint. Obstruction to motion does not lie in either the superficial or the deep tendons crossing the wrist. When the palmar fascia is divided the contracture persists. All the superficial muscles of the hand are apparently markedly degenerated. The color is pale, translucent, brownish-yellow, the consistency soft, pasty. Dissection of these muscles is begun at the little finger. A piece of muscle tissue is removed from the hypothenar eminence and ulnar edge of the hand for examination. In this muscle fibers cannot be distinguished with the naked eye. The long flexor tendons of the little finger are then liberated in their entire length, but without releasing the contracture. Disarticulation of the finger at the carpometacarpal joint equally fails to release the contracture. Further dissection of the soft parts on the anterior surface of the fingers uncovers tissue which is redder and firmer than the other muscles. A portion removed for examination appears to consist of muscle tissue mixed with dense, resistant fibrous tissue. Division of this tissue partly, but not completely, releases the contracture. Division of all the soft tissues on the anterior surface of the finger, down to the bone, results in complete relaxation. The red tissue is probably not muscle, no muscle being normally found at this point.

Division of the long tendons and palmar fascia of the ring finger also fails to release the contracture. The knife is then inserted under the skin on the anterior aspect of the proximal phalanx and the soft tissue divided to the bone. The contracture then freely relaxes.

The superficial muscles of the thenar eminence form a pale, pulpy, translucent mass about the size of a lead-pencil, but smaller at the center than near the bony attachments. There is hardly a trace of color. A portion is removed for examination. Division of this muscle does not affect the posture of the thumb. Beneath is found, as in the little finger, a small mass of redder firmer tissue, the flexor brevis pollicis, tense and apparently firmly contracted. When this is divided the contracture relaxes. Finally, the knife blade, turned on the flat, is inserted close to the bone on the anterior aspect of the proximal phalanx of the middle finger. The soft tissues are then slit away from the bone. The contracture relaxes easily and completely.

Microscopic Examination.—The vessels are everywhere normal. No nerves are found at the wrist or elsewhere which can be clearly recognized as such. In a number of sections (stained with hematoxylin and eosin) are found bundles of connective tissue surrounded by a sheath, suggesting a nerve in cross-section, but no axis cylinders or myelin can be made out. The red tissue from the deep tissue of the thumb and little finger consists of dense fibrous connective tissue, with fully developed collagen fibrils and considerable fat, but the vessels are still rather large and thin walled. The muscle removed from various areas, as already indicated, shows a varying amount of connective-tissue increase. In certain areas the connective tissue is fully developed, with few vessels, in every respect identical with fully developed scar tissue. In other areas the process of connective tissue proliferation is still in active progress. In these areas the nuclei are of fibroblast type, lying in a delicate stroma devoid of collagen, and with abundant large thin-walled capillaries which branch and anastomose in every direction, and frequently show "vessel tents." In certain areas the connective tissue seems to be made up almost exclusively of these capillaries. The muscle fibers themselves are everywhere degenerated, but most markedly so where the connective-tissue increase is most marked. The fibers are shrunken, usually present a wavy outline, and for the most part are devoid of cross-striations. Longitudinal striation, when present at all, seems to be exaggerated. The fibers are frequently broken up into rather coarse granules. In the areas where the connective tissue is least advanced, the muscle fibers are similarly more normal in structure, the cross-striation being at times intact, or at times extending across the fiber, but with a break in the line, recalling a geologic "fault." This appearance is particularly striking in sections stained with Mallory's phosphotungstic acid hematoxylin. When the striæ disappear they do so first at the periphery of the fiber. The tissues from the ulnar side of the hand show in general a more advanced degeneration of the muscle fibers, which are here scanty and separated by broad areas of connective tissue. Even here, however, a very few cells show traces of cross-striation. Their outline is wavy, and the fibrils run in a variety of directions, sometimes even crossing one another at right angles.

Dr. Whitman further says:

From the histologic study of this amputated limb it would seem probable that in this particular instance the changes were due to the combined effect of the anemia on the muscles and nerves. Whether this is so in the average case of the so-called Volkmann's ischemic paralysis and contracture can only be determined by the study of a considerable number of cases.

I do not know whether it is my unenviable fortune to be the only one who has amputated for this condition. I do not seem to find record of other amputations, although surgeons who have contributed to the literature of this subject say that in given instances amputation may become necessary. Of this I do feel certain: that in this particular case I know of no way in which the condition of the patient could have been improved. I believe that the original injury irreparably damaged the muscles, and, perhaps, the nerves. I may be mistaken in this, but on careful review of the course of this patient for nearly seven years this is my belief. I am conversant with the orthopedic, non-operative measures which have been thoughtfully and carefully set forth by Robert Jones, Reginald Sayre and others. In general I believe that such orthopedic management is the best which we at this time possess, but I venture the thought that this would have been without avail in the particular instance which forms the subject of this communication.

Fourteenth and Stout Streets.

MENINGEAL CARCINOMATOSIS

W. F. BEERMAN, M.D.
SAN FRANCISCO

During the lifetime of the patient the presence of carcinoma was not suspected, either in the meninges or in other organs, and after death the unaided eye could not discern it. It was revealed only by microscopic examination.

REPORT OF CASE

History.—Mrs. G., aged 62, widow, had been ailing on and off for several years with gout. For ten years she suffered with flatulency, but had never been seriously ill. Six weeks previous to Dr. W. W. Kerr's first visit, the patient began to suffer from headaches; these were at first slight, then gradually increased in severity and constancy until on October 31 her sufferings became so intense that she was unable to leave her bed. For seven or ten days previous to taking to bed, she complained of intense pain in both lumbar regions, which was greatly relieved by the use of a hot iron. The headaches during these six weeks were described as general and were unassociated with vomiting or disturbances of vision. At no time during her illness had she any stiffness of the muscles of

the neck or back. Oct. 31, 1910, when she was first seen by Dr. W. W. Kerr, she had several paroxysms of severe pain on the upper left side of the head; the pain was felt in the scalp. The mere brushing of her hair was sufficient to provoke a paroxysm of severe pain. This peculiarity of her headaches—their superficial location—remained constant. The pain was so severe that morphin was often given with but slight, if any, relief. November 14 it was first noted that the patient could not walk straight, and that her headaches were most severe behind the right eye and in the left occipital region. Her daughter now noted that the patient's mind was confused. November 17 she complained of severe pain in the lower-spine after sneezing. The patient became irrational and her speech incoherent. At times she did not recognize her daughters. November 21 she began to have hallucinations of sight; she saw cats and babies in her bed and about her.

Examination.—November 21 by Dr. Leo Newmark. The patient was well developed. She answered all questions promptly and correctly. The symptoms of mental aberration as described by her daughter were never noted at this or at the several other examinations. On the contrary, the patient took quite an interest in the various tests made. The whole scalp was tender, but the right parietal region was most sensitive to pressure. The pupils, disks, reflexes, visual fields, stereognostic sense and every other function of the nervous system were carefully, minutely and frequently tested, and at no time was any abnormal condition detected. There was no suggestion of aphasia of any kind, nor was there at any time any evidence of a meningeal affection. Percussion of the skull over the right parietal region elicited a tympanitic note. Examination of the chest and abdomen was negative. The breasts were normal. The urine was normal. The Wassermann reaction in the blood-serum was negative. From this date on the hallucinations of sight became more frequent, and at one time the patient forced her son to crawl under the bed and dispose of a group of monkeys.

Course.—The patient was sleepless, with the exception of some sleep obtained by chloral, bromids, etc. She was in a constant state of restlessness. December 4 her daughter on approaching her from the left side with a feeding-cup would be pushed away, as patient remarked that she could feed herself. If, however, she approached the patient from the right, her approach was not recognized. Tests with the finger, however, failed to elicit hemianopsia or hemiamblyopia. The severe headaches continued up to this date. December 5 the patient became actively delirious, continually trying to get out of bed. With this was associated muscular twitchings of the right shoulder, while with the right hand she constantly beat the bed-clothes. December 6 the patient passed into a semicomatose state from which she could be aroused. This state alternated with active delirium until December 9, when she sank into a deep coma. The temperature, which had been normal during the whole course of her illness, now rose to 100 and 102 F. Death occurred on December 12.

Post-Mortem Examination.—Dr. M. B. Lennon found on removing the brain that the left hemisphere was larger than the right. Otherwise the brain and its membranes appeared normal. The arteries were not thickened. The several transverse and longitudinal incisions made revealed no abnormalities of the cerebral substance. Everywhere the gray and white matter appeared normal. After the brain had been hardened in formaldehyd solution it was seen that the pia mater was slightly thickened and opaque. A piece of the left frontal lobe was first examined, and it became at once evident that we were dealing with a malignant process involving the pia-arachnoid. These membranes were everywhere thickened and infiltrated with numerous large round, irregular and oval cells. The nuclei stained darkly; in isolated instances they were pale and vesicular. Most of the cells were rich in protoplasm. Their distribution was perivascular. These abnormal cells dipped down into the pia of the sulci, and here they were in many places arranged in long rows. Large cells were occasionally seen with several nuclei—three to five or more. Diffuse hemorrhages were seen throughout the membranes. The cells infiltrating the pia-arachnoid covering the frontal and parietal lobes, the cerebellum, pons and the pia from the neighborhood of the great transverse fissure were gathered together in a diffuse manner, and in these areas mitotic figures were most commonly seen. In the pia covering the occipital and temporal lobes, and the upper and lower medulla, the cells were arranged in gland-like structures. Here the cells were placed in a single layer and were of the low columnar variety. Again, proliferation occurred and the cells occupied much of the cavity. Nowhere was there any evidence of an infiltration of the cerebral substance. Some sections from the anterior horns of the lateral ventricles were examined and the ependyma was found normal. The sections were submitted to Dr. Ophüls for examination, who reported "carcinomatosis of the pia-arachnoid."

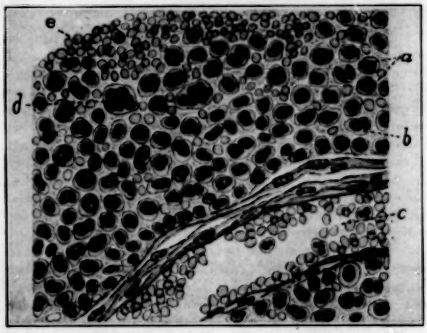

Fig. 1.—Here and there in the preparations a diffuse arrangement of the neoplasmic cells is found with no tendency to assume the gland-like structures which are so common in most of the areas invaded by the new growth. Where this condition exists most of the cells have a pale protoplasmic element with single, large, round or oval nuclei rich in chromatin. Such cells are shown in the illustration at *a*. Aside from these numerous cells are found in various stages of mitosis—one variety with double nuclei is seen at *b*, while another containing several nuclei is shown at *d*. A blood-vessel is indicated at *c* and a diffuse hemorrhage at *e*.

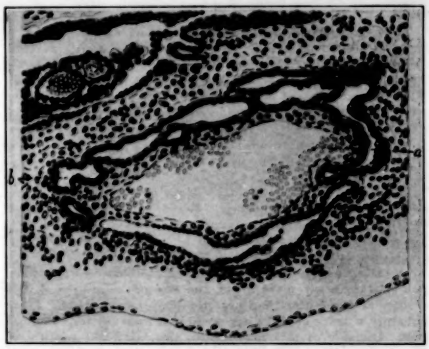

Fig. 2.—The typical glandular arrangement of the neoplasmic cells is shown in this illustration at *b* and their position corresponds to the perivascular lymph-spaces of the blood-vessel *a*.

The various factors which render this case important and possibly unique, are as follows:

1. The absence of opisthotonos, Kernig's sign and other signs and symptoms commonly associated with

meningitis. Lumbar puncture was not performed. It is possible that cells such as were found in the pia-arachnoid might have been observed during life in the cerebrospinal fluid.

2. Despite an illness of three months or over, there had not been any loss of weight. Emaciation is quite constant in this condition.

We had so little suspicion that we were dealing with a cancerous affection that no investigation for the purpose of finding a primary growth was made during life, and the same state of ignorance made us omit the search even after death. And furthermore, the brain itself after its removal seemed to promise so little result that its microscopic examination was deferred for several months.

3. The degree of involvement of the pia-arachnoid, which was everywhere infiltrated with cancer cells, so

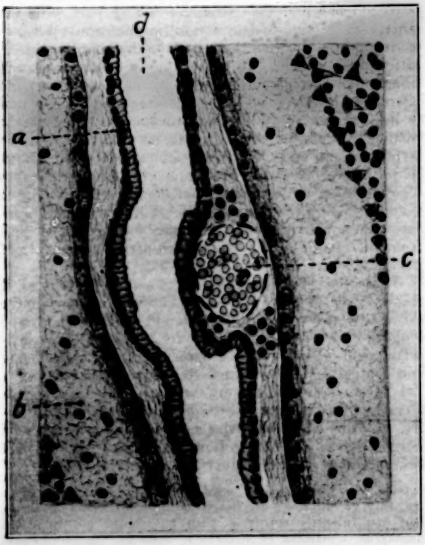

Fig. 3.—This illustration serves to point out the fact that the neoplasm confined itself to an intimate relation with the pia-arachnoid of the brain and did not in any place invade the parenchyma of that viscus. *a*, neoplasmic cells; *b*, cerebral tissue; *c*, blood-vessel; *d*, sulcus.

that it may be said that the entire brain was ensheathed in cancer.

4. The marked gland-like arrangement of the cells. In but few of the cases reported was this formation present.

Diffuse microscopic meningeal carcinomatosis of this kind is rare. I have been able to find in the literature records of only eleven cases similar to the one here reported. Of these eleven cases, nine were secondary to cancer of the stomach, two to cancer of the lung.

The clinical diagnosis of this condition is most difficult. When meningeal symptoms occur in cases in which the presence of the primary growth is known, our suspicions would readily be aroused; but the diagnosis is often impossible because the primary lesion is not detected. If cancer cells be found in the spinal fluid, the diagnosis would be certain. In three cases reported, in which, however, definite signs of a meningitis were present, a clinical diagnosis was made by finding in the spinal fluid large round cells which resembled those found later on microscopic examination of the pia. In the cases of Eberth, Lilienfeld and Benda and Nonne, hysteria was diagnosed, and not until within a few days of the death of the patients, when signs of a focal lesion appeared, was an organic lesion assumed. Marchand and Saenger have reported cases in which a clinical diagnosis of brain tumor had been made. Symptoms of cerebral derangement are common in cancer. Oppenheim first drew attention to various symptoms of cerebral derangement in patients suffering from cancer of various organs, in which, macroscopically, no disease of the brain was observed. These symptoms he regarded as toxic. Some authors dispute as to whether the rather bizarre nervous symptoms which may occur in the course of carcinoma are of toxic origin. Saenger and Spiller believe that definite organic changes cause the so-called toxic symptoms, while others believe that gastric intoxications are the cause. The literature contains the histories of numerous cases in which a metastatic growth seemed the probable diagnosis, but at autopsy no macroscopic lesion was present.

The symptoms of carcinomatous meningitis may be as protean as the symptoms found in hysteria and syphilis. It is well known that in cancers, variously situated, cerebral symptoms, focal or general, are often present without macroscopic changes to account for them; but it may be possible that microscopic lesions may have been the cause of the hemiplegias, with or without aphasia, aphasia alone, convulsions, either general or jacksonian, cranial nerve palsies, bulbar phenomena, apathy, delirium, coma, psychoses, etc., which have been observed.

My case shows that a marked hallucinatory and agitative state in an apparently well-nourished patient with excruciating headaches and marked tenderness of the scalp, with no suspicion of malignancy, may be due to an almost generalized, microscopic cancerous involvement of the pia-arachnoid.

It should be emphasized that in the majority of instances of the so-called toxic symptoms of cancer, where macroscopically no demonstrable lesions are present, careful and extensive histologic studies of the brain and its membranes will in nearly all cases show structural changes marked enough to account for all symptoms.

I wish to thank Dr. W. W. Kerr and Dr. Leo Newmark for permitting me to report this case.

800 Butler Building.

Ophthalmia Neonatorum.—Laws for the prevention of the blindness of new-born infants are making progress slowly. Many of the states have recognized the need of measures to prevent the disease. Some states have issued instructions regarding the proper methods of prophylaxis and some also furnish packets containing preparations of silver salts for use in the eyes of the new-born. The records for institutions for the blind show that from 23 to 35 per cent. of the inmates have become blind as a result of ophthalmia neonatorum. Among the states in which the disease is notifiable are Connecticut, Massachusetts, Minnesota, Nebraska, New York, Oregon, South Carolina, Utah, Vermont and Wisconsin. In some states a nurse, midwife or parent is required to report the disease. In most cases, at least, the disease can be prevented and where it exists proper treatment will, in many instances, prevent loss of vision.—*Pub. Health Rep.*

ARTHRODESIS OF SOME OF THE SMALLER JOINTS IN THE TREATMENT OF PARALYTIC AND ACQUIRED DEFORMITIES *

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NEW YORK

By arthrodesis is meant the making of a synarthrosis of a joint, transforming a movable into an immovable articulation by ankylosing the contiguous bones after removing the articulating surfaces lying between them with the least possible loss of bone-structure, the object of the arthrodesis being to make a more stable and serviceable limb, changing a flail, deformed or painful joint into a rigid stable one, thus restoring contour and usefulness.

In many instances in which other means such as tendon-grafting or muscle transplanting have failed or would fail, and where braces are insufficient or out of the question, resort can be had to changing the articulating bony framework sufficiently to give a very serviceable limb. This condition applies particularly to the lower extremities on which weight-bearing and locomotion are to be considered. The larger joints are successfully ankylosed and by the exercise of proper technic equally successful results can be obtained in many of the smaller joints. There are, however, certain conditions which must be borne in mind in considering an arthrodesis of a joint and in performing the operation, viz., the age — the patient should not be under 8 years —and the securing of exact apposition of cut bony surfaces and the maintenance of such apposition throughout the period of ankylosing. I have found arthrodesis of service in correction of certain deformities arising from infantile paralysis, hammer-toe, flat-foot and wrist-drop.

In infantile paralysis the extent of the paralysis producing the deformed condition must be determined, whether due to an actual loss of power in the affected muscles or simply to a weakening, overstretching or overtire in the muscle-balance. If induced by a feeble response of muscle contractility, shown by the current, to transplant the peroneals to take the place of a paralyzed calf, without examining the muscle-bodies of the peroneals themselves, a mistake is made and a disappointing result occurs.

Also, if resort is had to arthrodesis in a case of loss of muscle-balance with deformity without sufficient lapse of time since the date of the infection, or without sufficient investigation to determine whether there will be any further recovery of muscle-power, or whether the apparent loss of power is due chiefly to an unbalanced condition of opposing muscle-action, it will be found at a later period after the arthrodesis has been performed that the supposed paralyzed muscles have regained their tone, in great measure owing to the regeneration of motor-cells or to the relief of muscle overstrain, demonstrating the mistake of having deprived the patient of a serviceable joint.

INFANTILE PARALYSIS

It will be found on careful examination, in many cases of either varus or valgus deformities arising from infantile paralysis, that the deformity does not include the astragalus. This bone remains, in many instances, secure in its normal position, unchanged in its relation to the tibia and fibula, the varus or valgus occurring at the astragaloscaphoid, calcaneo-astragaloid, or at both of these articulations.

With the astragalus thus furnishing a secure anchorage it is a comparatively easy matter to rectify the varus or valgus deformity by first overcoming any resistance to overcorrection of the foot and then performing an arthrodesis of the astragaloscaphoid, calcaneo-astragaloid, or of both of these articulations, thus furnishing a secure restoration of the foot without appreciable loss of function, as we have the normal astragalotibia articulation remaining, permitting full flexion and extension of the foot. This normal relation of the astragalus to the tibia and fibula is a very important point, offering an admirable point of anchorage.

We do not find the astragalus taking part with the other bones of the foot in a resulting deformity because of its secure position between the malleoli, its broad articulating surface with the tibia, its short, strong tibiofibula, astragaloid ligaments, its freedom from lateral strain due to so short a leverage made on it and to its freedom from muscular attachments; whereas the smaller articulation of the astragalus and scaphoid, the astragalus and oscalcis, their articulation not being horizontal to weight-bearing, the ligaments holding the bones together being not so strong, and the leverage brought to bear on these joints being far greater than at the tibio-astragaloid articulation, these also having added pull from the muscle attachments, all contribute elements of weakness.

Where the tibio-astragaloid articulation is relaxed it seems to me that Whitman's operation of removing the astragalus and advancing the weight-bearing nearer the longitudinal center is superior to ankylosing the tibio-astragaloid articulation because the flexion, extension and contour of the foot are better preserved.

I have operated in five infantile cases at the astragaloscaphoid articulation to correct varus or valgus deformity, in all of which the astragalus was found firm in its normal relation with the tibia and fibula. In the last case of this series the history was as follows:

CASE 5.—*Patient.*—M. S., aged 7 years 6 months, referred to me July 27, 1911, at St. Barnabas Hospital, Newark, N. J., had had infantile paralysis when 13 months old, and had undergone treatment of electricity, massage, plaster-of-Paris and brace. Examination showed loss of power in flexors of the left thigh, subluxation of knee with shortened flexors of the leg, preventing extension beyond 135 degrees, contracted calf, with flexion of foot on the leg limited to 125 degrees, apparent loss of power of peroneal muscles, foot in marked equinovarus, astragalus in firm position with tibia and fibula, the varus occurring at mediotarsal joint, left leg showed shortening of 1 inch.

Operation—Aug. 7, 1911, under ether the subluxed knee was reduced by stretching and forcible extension and the equinus overcome by forcible flexion of foot to a right angle. Arthrodesis was performed between the astragalus and scaphoid and the foot and leg were put in slightly overcorrected position in plaster-of-Paris dressing reaching to the groin. The child was in the hospital three weeks.

Course.—Oct. 12, 1911: A metal leg-support, stiff at knee with limited motion at ankle to prevent recurrence of equinus, was attached to shoe, the shoe also having added to it a ¾-inch cork-sole.

Nov. 7, 1911: An *x*-ray of the foot was taken.

Nov. 9, 1911: Examination showed common extensors of the toes improved in power, anterior tibial muscle strong,

* Read at the meeting of the Interurban Orthopedic Club, New York, Nov. 10, 1911.

peroneals regaining in tone, leg straight, knee restored to normal position, foot at right angle with some power of flexion and extension. Union of astragalus and scaphoid seemed secure from manipulation and from *x*-ray. Stop preventing flexion of foot on leg removed but stop preventing extension of foot to remain. Patient walks well in brace.

HAMMER-TOE

The correction of hammer-toe, a deformity of comparative frequency, has been attempted by quite a diversity of methods, resulting in more or less maiming of the toe or foot, as for instance, tenotomy of the shortened flexor tendons and stretching, with fixation until healing takes place, often results in a recurrence of the contracture at a later period; also excision of the joint with skin incision on the dorsum of the toe, thus shortening the toe to accommodate its length to the shortened flexors, often results in a sensitive scar as well as in a shortened toe, and sometimes the toe is amputated, the final result being very often a troublesome foot.

I have obtained satisfactory results from an arthrodesis of the flexed joint, done through the plantar surface, entering to one side of the flexor tendons, the success of the arthrodesis being doubly assured by holding the cut bone-ends together by making use of the shortened flexor tendons as a splint and holding the toe straight and hyperextended at the metatarsophalangeal articulation by a plaster-of-Paris dressing throughout the process of healing. By this means the offending joint is destroyed, the toe is only perceptibly shortened, no troublesome scar remains, no recontracture takes place and the toe remains straight and serviceable.

FLAT-FOOT

In connection with the condition of flat-foot, it is of course hardly necessary to state that I do not advocate the use of arthrodesis as a universal procedure in the cure of flat-foot, but I merely wish to present the report of three cases in which I did an arthrodesis of the astragaloscaphoid joint in the cure of painful pronated flat-foot.

A rigid foot with prominent scaphoid, despite correction by stretchings and plaster-of-Paris treatment followed by plates, often remains refractory. By an arthrodesis of the astragaloscaphoid articulation a strong bony arch is formed in place of a weak mediotarsal joint.

In Case 1 only one foot was operated on, which foot was much worse than its fellow, being moderately pronated and painful with the scaphoid unduly prominent.

CASE 1.—Boy aged 15, was operated on in July, 1907. The operation resulted in a firm ankylosis, restored the contour of the foot and relieved all symptoms, as patient reported in 1910.

CASE 2.—Boy, aged 17, with rigid, painful pronated flat-foot with scaphoid prominent, as result of having foot caught in wheel and twisted two or three years previously. Arthrodesis of the astragaloscaphoid articulation was performed after thoroughly overcoming resistence to full adduction December, 1909. He was a bell-boy in a hotel all summer, 1911, and reports that he suffered no inconvenience whatever.

CASE 3.—Girl, aged 20, had a very relaxed and painful foot. Operation, June, 1910. In this case, however, I have not felt perfectly well satisfied with the result, for, although the foot is in a much better position, she says that when she has to stand for a long time at her work, she finds the foot still sensitive, so she wears a metal support. She has not a secure union of the astragalus and scaphoid, due, it is believed, to not having sufficient contiguous bone-surfaces together, as it was found on operating that there was much old scar-tissue as the result of a fractured scaphoid.

WRIST-DROP

The position of flexion assumed by the hand as a result of paralysis of the extensors renders the hand useless on account of its position, as any one may demonstrate for one's self by attempting to grasp an object while the hand, being in the effort of grasping, is held in the flexed position on the forearm. It is thus seen how this position of flexion of the hand, by shortening the unparalyzed flexor muscles, renders the hand almost powerless. Now if it is found that we cannot hope for enough regeneration of nerve-impulses to the extensors of the wrist to maintain the hand in sufficient extension to allow the flexors to act, so as to grasp and hold an object, we must resort to some means to secure that position before we can relieve the situation.

In certain selected cases in which the flexors could be brought into use when the hand was held in extension on a plane with the forearm, it occurred to me that by fixing the wrist in some way, to prevent its dropping to its useless flexed position, the patient could be given a useful hand, and although the wrist furnished many disadvantages for arthrodesis there seemed no reason why it should not be attempted.

Below are the histories of two cases, both spastic hemiplegia of a moderate degree, in which, on account of the deformity, the patients were unable to grasp things and hold them in the affected hand.

CASE 1.—A boy, aged 8, had a contracture of the calf on the affected side, as well as wrist-drop. Did a tendo-achillis lengthening at the same sitting as the arthrodesis between the scaphoid semilunar and the radius. This attempt was a failure as no bony union was secured, consequently no correction or strengthening of the hand, due to the fact that the scaphoid and the semilunar were so small and insufficiently ossified.

CASE 2.—This case was more successful, as the hand is now placed in excellent position and it is developing, as time goes on, into a very useful member. The patient can grasp things and help himself in eating, both of which he was totally unable to do before. The patient, D. G., a boy aged 16, was operated on Jan. 30, 1911. He had spastic paralysis of the left arm and leg. In this case I denuded not only the articulating surfaces of the radius, scaphoid and semilunar, but in addition bridged across these contiguous bones with strong silk fastened into the periosteum at both ends, to aid in apposition of bony surfaces. The hand and arm to above the elbow was put up in plaster-of-Paris dressing lined with flannel, the hand in hyperextension and the elbow flexed to a right angle. Since the removal of the dressing the patient has worn a palmar splint of metal holding the hand in hyperextension Since July, 1911, he has not worn a splint and he is constantly improving the control of his hand.

SUMMARY

Some facts to be borne in mind in doing an arthrodesis:

1. The operator should be sure that the deformity is a permanent one, not due to temporarily paralyzed muscles or to muscle overstrain or tire.

2. The patient should be old enough — not under 8.

3. All resistance to correcting the deformity should be previously overcome.

4. The operator should strive to cause as little mutilation of the contiguous bones as possible. He should not use a curet. The exaggerated idea of removing a V-shaped piece of bone is overemphasized. Success depends on ability to make a flush joint, as a carpenter would say, and thereby correct the deformity, and also depends on ability to apply a fixing dressing which allows of the least separation of the opposed denuded bony surfaces.

122 East Thirty-Fourth Street.

POSSIBLE DANGERS OF THE VERTICAL RECTUS INCISION

MILES F. PORTER, M.D.

Surgeon to Hope Hospital; Professor of Surgery in the Indiana University School of Medicine

FORT WAYNE, IND.

I have on numerous occasions in my clinic called attention to the annoying and possibly dangerous proximity of the epigastric vessels to the wound in the vertical rectus incision, especially when made below the umbilicus. I have never been partial to the incision for the reasons suggested, but have used it rather frequently. In the future I shall employ it only in cases in which its advantages as compared with other incisions are very considerable, and in septic cases I shall use it in very exceptional ones only.

This decision is the result of the fact that, within the last month, I have had two cases of alarming secondary hemorrhage from the epigastric artery, one very nearly fatal. In both cases there was infection. In neither case was the artery injured at the time of the operation, so far as is known. The patients, both males, were aged respectively 36 and 8 years. In one case the hemorrhage occurred on the thirteenth day after the operation, and in the other on the tenth day. In both cases the hemorrhage was stopped by clamping the artery with a hemostat. The hemostats were removed after forty-eight hours. In neither case could the hemorrhage be attributed to pressure by the drain, for in the one case no drainage was used until after the hemorrhage occurred, and in the other there was one soft rubber tube placed well to the outside of the vessels through an ample opening, and the tube had been removed seven days before the hemorrhage occurred. In both cases there was considerable fascial sloughing. Both these accidents might have been avoided had the incisions been made well away from the vessels.

I have on more than one occasion tied the epigastric vessels, on account of hemorrhage, during an operation for the removal of the appendix through a vertical incision through the rectus, and have seen it done in other clinics. I believe also that the vertical incision through the rectus entails more danger from thrombosis and embolism than do incisions made outside of or between the recti. For this belief, however, I have no specific proof. I have not looked up the literature on the subject, nor have I made inquiry of other operators concerning the matter, but, because of personal experience and observation, I feel that this word of warning should be uttered.

207 W. Wayne Street.

A CASE OF RUDIMENTARY CLAVICLES

MICAJAH BOLAND, M.A., M.D., DALLAS, TEX.

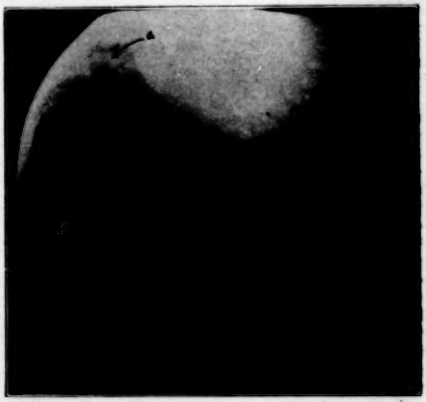
P. A. Surgeon, U. S. Navy

To the naval medical officer on recruiting duty there come men with numerous physical defects, but rarely does it happen that a maldevelopment of real interest comes under his observation.

Recently there came to the navy recruiting station here a youth, aged 22, desiring to enlist in the navy as apprentice seaman, who, before removing his clothing, showed nothing abnormal; and even when he presented himself nude for the physical examination, the only abnormality noticed was a slight prominence of the clavicles about one-third way from the sternal end. On palpation it was discovered that the clavicles were rudimentary and extended only a short way from the sternum. There was apparently a slight ligamentous connection between the ends of the clavicles and the acromion process, but the fingers could be inserted behind the ends of the clavicles and they could be drawn forward without discomfort to the subject.

History.—The young man's father was living, aged 55, in good health. Mother died in 1900, from phlegmasia alba dolens, aged 33. There were ten children, four boys, six girls; all brothers are living and healthy; two sisters dead; age and cause unknown; four living and healthy; none of his brothers or sisters has any abnormality or maldevelopment. The subject was born in Nacogdoches County, Tex.; as far as known, birth was normal and at full term. Development was rapid; the boy was walking earlier than children usually do; attended school irregularly but made good progress with his studies. He was raised on a farm and could do as much hard work as his brothers. He had mumps at 11; intermittent fever at 14; otherwise healthy all his life; knew of his maldevelopment and was an object of curiosity and envy among his companions.

Physical Examination.—Height 68 inches; weight 133 pounds; mean chest measurement 34 inches; expansion 4 inches; vision 20/20 each eye; hearing 15/15 each ear; palate V-shaped; other stigmata of degeneration present; his muscular system was well-developed; the shoulders did not drop down and except on close observation nothing abnormal could be noticed.



Skiagraph showing rudimentary clavicles in a man aged 22; a, acromion process.

On palpation it was found that the clavicles were only about 3 inches long; the fingers could be passed around the outer ends and after getting behind them they could be drawn forward through an arc of about 60 degrees without any discomfort whatever. The other bones were fully developed but small; heart, lungs and other organs were negative.

The young man has an excellent grip and can maintain the horizontal position of his shoulders notwithstanding heavy pressure on them. The shoulders can be thrown far back and can also be drawn much farther forward than normal shoulders. The arms can be raised laterally over his head.

The accompanying skiagraph shows the condition well. It was taken from the front and the absence of the clavicle is well demonstrated; a small cartilage is attached to the acromion process but does not show in the skiagraph.

I am indebted to Professor J. M. Martin of Baylor University Medical School for the skiagraph.

The subject, being of a roaming disposition, unfortunately, left the city before a photograph of his shoulders could be obtained and it has not been possible to locate him.

A NEW BLOOD-PRESSURE MANOMETER

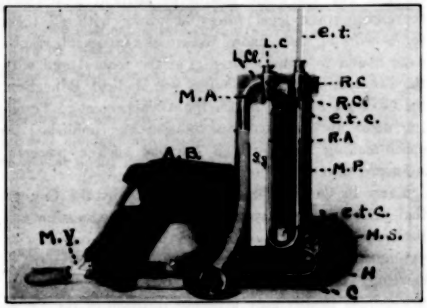
CARL H. DAVIS, M.D., MILWAUKEE, WIS.

Mercury sphygmomanometers are generally recognized as being more desirable than the spring or diaphragm type. Most of them, however, are too large to be carried in the ordinary bag, and the other instruments are either inaccurate, or easily broken. Owing to the demand for a more portable blood-pressure manometer, I have attempted to devise one which can be easily carried and operated. The one herewith described I have found accurate and it should prove to be durable.

The case consists of a neat cherry box 9 inches long. The handle serves a double purpose in that it may be used for carrying the instrument when closed, and maintaining the manometer in a vertical position when in use.

The manometer consists of a U-shaped tube, with a detachable extension for the right arm; the connection being made by carefully fitted metal parts. Flint glass is used because of the action of mercury on the ordinary glass. The U is fastened to a metal plate, as seen in the illustration, by means of the steel cylinder at the top of either arm. The glass tubing has no other attachment and should therefore be less liable to break from sudden jars, than in instruments where it is held more rigidly. The extension tube, when not in use, is held between the arms of the U by means of metal clips. The manometer is packed in the bottom of the case, the back of the metal plate forming a false bottom so that neither the pump nor arm-band can come in contact with the glass.

The arm to the left, or short arm, has a metal top consisting of a cylinder threaded for a gasket, with a screw-cap and an arm. The gasket screws down on a washer of felt and prevents the escape of mercury when the manometer is in the case. The screw-cap closes the cylinder and may be used to



A.B., arm-band; *C.*, case; *e.t.*, extension tube; *e.t.c.*, extension tube clip; *H.*, handle; *H.S.*, handle slot; *L.A.*, left arm of U tube; *L.Cl.*, left cylinder; *L.C.*, left cap; *M.A.*, metal arm; *M.P.*, metal plate; *M.Y.*, metal Y; *P.*, pump; *R.A.*, right arm of U tube; *R.Cl.*, right cylinder; *R.C.*, right cap; *S.S.*, sliding scale.

allow a slow escape of the air. The metal arm connects with the pump and arm-band.

The other arm of the U has a metal cap which is threaded to connect with the extension tube. The detachable tube has a metal part threaded, but with a shoulder which insures a proper and easy connection. Between the ends of the glass a thin, carefully prepared gasket is fitted to prevent chipping of the glass and insure a tight connection. A screw-cap is also provided to close this arm of the U when carrying it in the case. While the instrument is in use, this cap is held to one side by a simple device and in such a way that the manometer cannot be placed in the case until it is replaced.

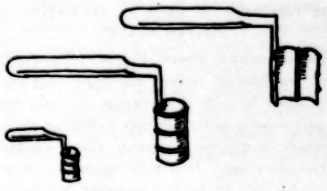
A sliding scale is provided, and attached so that the readings are made downward on the short arm of the manometer. This is a new feature and, I think, will be found quite satisfactory. The zero should be adjusted before the cuff is attached, as afterward a slight pressure is apt to be present in the closed pneumatic system.

A cloth cuff with four thin but stiff metal strips to prevent any tendency to narrow with the high pressure has been found satisfactory. I prefer this type of cuff to the clumsy leather ones. The tubes from pump, arm-band and manometer are connected by means of a metal Y. The Y should be detached from the manometer tube when packing in the case.

A MODIFICATION OF THE CRILE TRANSFUSION CUFF

R. C. BRYAN, M.D., AND F. R. RUFF, RICHMOND, VA.

This device is based on and modeled after Crile's idea of arteriovenous anastomosis in cases of direct blood transfusion. Crile's technic is not changed, but our devise has the following features which would seem to commend themselves along mechanical lines.



Cuff for blood transfusion, being a modification of Crile's device.

1. Being made on a larger scale and with a longer and larger handle, the instrument is more easily manipulated.

2. The cuff, being split and opening on a smooth hinge, can be put around the artery and then closed, thus doing away with the tedious feature of threading or pulling the artery through the cuff.

SUPERNUMERARY AXILLARY MAMMARY GLAND

FRANK J. HIRSCHBOECK, M.D., BUHL, MINN.

Dr. J. Cantwell reported in THE JOURNAL March 16, 1912, (p. 747) an unusual case of supernumerary axillary mammary glands symmetrically developed. The following is a case of equal interest to anyone seeking data on these rare anomalies.

History.—The patient was a primipara, aged 22, who was delivered of a normal child in February, 1912. No one in her family ever had any similar formation and she herself never noted any anatomic alteration until she reached the age of 14, when a "swelling" formed "under her arm" which proved annoying when the arm in question (the right one) was employed in active exercise. No physician was consulted at that time.

On the third day of an otherwise uneventful puerperium the patient complained of pain under the right arm with an accompanying discharge of a milky secretion. On examination I found, just posterior to the pectoralis major, a small swelling about as large as a walnut, partly covered with hair. It was soft to the touch and closer inspection revealed a very small nipple, not much larger than a pinhead with a proportionately small areola around it. The discharge altered in appearance with that of the larger breast, becoming whiter until four or five days elapsed when the secretion gradually ceased leaving a non-secreting but a well-formed miniature gland. No gland was found on the left side nor any evidence of anomalous secretion.

The secretion while present was almost constant and caused the patient great annoyance. There was no tenderness on palpation and the swelling was freely movable. This case is especially interesting on account of the gland being unilateral, perfectly normal in appearance, and because of its advent with puberty, remaining for a long time unrecognized as such until lactation was stimulated.

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[For other information see second page following reading matter]

SATURDAY, MAY 11, 1912

RECENT PROGRESS IN MEDICAL EDUCATION IN THE UNITED STATES

In his last annual report[1] President Pritchett of the Carnegie Foundation reviews the great progress which has been made in medical education in recent years and refers particularly to the changes following the foundation's report on medical education, which was published about two years ago. It will be interesting to note the incidents leading up to this progress, with which the work of the Carnegie Foundation has had considerable to do.

All concerned with medical education can readily believe that more progress has been made in the last eight years than in all previous years since the American Medical Association was organized, although the improvement of medical education was one of its main objects. From its beginning, in 1846, such action as was taken toward raising educational standards was through temporary committees, some of which were made up of very able men who gave the subject much thought and presented drastic reports condemning the tendency toward commercialism and low standards. In spite of such reports, however, conditions continued to grow worse and the number of schools conducted for profit continued to increase until 1904, when the maximum number—166 colleges—was reached. In that year also only three colleges required preliminary education exceeding a high-school course, while the majority admitted practically every student who applied.

But a decided change was destined to take place. In 1904, at the annual meeting of the American Medical Association, the last of the temporary committees brought in the usual report denouncing the bad conditions in medical education, but this report differed in one chief respect from those of previous committees. It recommended the creation of a permanent council with a salaried secretary and with sufficient funds to carry on the work. The report of the committee was adopted and the present Council on Medical Education was created. Active work began at once and in the spring of 1905 there was held in Chicago the first of a series of annual conferences on medical education attended by university presidents, prominent medical educators and delegates from state medical licensing boards, college associations and other organizations interested in medical education. Particular emphasis at these conferences was laid on the need of better entrance standards, and it was urged that mergers be made in the various cities where two or more medical colleges were existing so that in each instance one stronger, better-equipped institution might result. From that time improvements in medical education have been very marked. There began at once a rapid decrease in the number of medical colleges until at present there are only 120. On the other hand, the number of colleges adhering to higher standards of preliminary education began to increase; there are now forty-seven which require one or more years of collegiate work for admission.

The chief object of the annual conferences, however, was to secure a cordial cooperation of the other agencies which were working toward the advancement of medical education, and it is doubtless through the unanimity of effort thus secured that so much progress has been possible. There began an earnest cooperation of the Council on Medical Education, representing the American Medical Association; the Association of American Medical Colleges, representing the progressive medical colleges, and the State Boards of Medical Examiners, representing the legal forces at work; with all these forces working in harmony toward the same end, results were bound to come. Finally, at the request and with the cooperation of the Council on Medical Education, the Carnegie Foundation for the Advancement of Teaching made an extensive investigation and published its epoch-making report which has had such a powerful influence toward further advancement.

Early in the work it was recognized by the Council that permanent improvements in medical education and licensure could be best secured by obtaining a wide publicity of the facts regarding conditions actually existing. Medical publications and the more progressive newspapers readily gave generous mention of the Council's work and reports, but a much wider publicity was needed. This could be best secured through an independent educational agency such as the Carnegie Foundation — an agency in regard to whose reports the worn-out claims of "sectarian bias" could not be successfully made. That organization had already presented one or two reports in regard to universities and incidentally to a few university medical departments, but to get at actual conditions an investigation of independent as well as of university medical schools was necessary. During the winter of 1908-09 and 1909-10, therefore, Mr. Abraham Flexner, representing the foundation, made his inspection of all the medical schools in the United States and Canada. His report, sent out by the foundation, was received by the press of the country in a most gratifying manner, and without question did

1. The Carnegie Foundation for the Advancement of Teaching. Sixth Annual Report of the President and Treasurer, New York, 1911.

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more to inform the laity in regard to the actual conditions of medical education in this country than any other one influence. The wide publicity given to the report has undoubtedly done a great deal toward developing public opinion in favor of intelligent legislation governing the practice of medicine; it has likewise done much toward securing better facilities, better laboratories and better teachers in medical colleges.

The Carnegie Foundation's report strengthened and confirmed the classification of medical colleges reported about the same time by the Council on Medical Education following its second tour of inspection. The Council's classification was published and has since come to be recognized by state boards and others interested in medical education as a means of judging medical schools. As stated in the Council's report, the classification was based on an extremely lenient marking and it was very essential that the work of inspecting and classifying medical schools in this country should be continued. A third tour of inspection will soon be completed; then the Council will be neglecting a positive duty if it does not make a careful revision of its ratings and publish a classification of medical colleges which is more in accordance with the conditions actually existing in the various schools. Progress has undoubtedly been made in the last eight years, but much remains to be done. The campaign for improvement should be continued until every medical college in this country is in position to give its students a thorough training in medicine in accordance with present-day standards, and that means, as a minimum for each student, a four-year high-school education; at least one year's training in physics, chemistry and biology; a thorough, four-year medical course and a year spent as an intern in a hospital.

THE NATURE OF NARCOSIS

Narcosis is of supreme interest, not only because of its beneficent effects, but also because it influences so profoundly the basal processes in living matter. Meyer and Overton have shown that narcotics act the more strongly the more soluble they are in fats and lipoids, thus paving the way for experiments that eventually might afford an explanation of the mechanism of narcosis.

Discussing the theories of narcosis in a Harvey lecture in New York, Verworn, the physiologist, points out[1] that narcosis is a condition of depression with diminished irritability to and conductivity of external stimuli. Similar conditions arise as the result of various forms of toxic action, of suffocation, of fatigue, of extreme heat and cold — all conditions in which there is failure of the oxidative processes. When oxygen is excluded there is failure in the production of energy by the cells and gradual depression of cellular functions. Whatever catabolic processes occur proceed in a non-oxidative manner. In experiments with narcotics Verworn and others have found that when narcotized the spinal cord and the sciatic nerve of frogs are unable to make use of oxygen even when offered freely. Neither do amebas take up oxygen when narcotized. The result of narcosis differs in one way from the effect of exclusion of oxygen, namely, in respect to the rapidity with which the cellular activities are suspended: In narcosis, depression of nervous irritability reaches in a few minutes the degree reached only after two to three hours in an atmosphere of free nitrogen. This is explained as due to the inability of the narcotized tissue to make use of the oxygen present in itself (molecular oxygen). The effect of narcosis, consequently, is that of an acute asphyxia.

How do narcotics prevent living matter from carrying on oxidative processes? A most probable hypothesis in explanation of this question is offered by Verworn, namely, that narcotics, so to speak, paralyze the oxygen-carriers in the living tissues. It might be assumed still further that the oxygen-carriers are lipoidal in nature, which would bring this hypothesis in full harmony with the law of Meyer and Overton. As the cells of the cerebral cortex are the first to lose their functional powers in narcosis, they may be regarded as the most sensitive of the cells to interferences with oxidation. In view of this circumstance it becomes of obvious importance to induce narcosis only to such degree that consciousness and conscious sensation are suppressed. Furthermore, the preferable anesthetic would be one that is eliminated rapidly.

Graham has found that the hemorrhagic diseases of the new-born may be duplicated in animals by the use of chloroform,[2] and he emphasizes the fact that the lesions in these diseases—the fatty changes, the hemorrhages, etc.—are like those caused by lack of oxygen; hence deficiency of oxygen, local, general and selective may be an underlying cause of the hemorrhagic diseases, and it seems likely that in human beings in many instances such deficiency may be chargeable to chloroform. We should remember that the deeper our narcosis the more the oxidative processes are interfered with.

Verworn's interesting discussion and Graham's experiments are of great practical value in that they point out one great danger of narcosis and also the way to avoid it. No doubt further experimentation will determine better than is now known just how narcotics interfere with the oxidation processes and also the more precise nature of the mechanisms of these processes.

HOUSE-FLIES AND BACTERIA

The ubiquitous house-fly stands convicted as a disseminator of pathogenic bacteria and a carrier of contagion. Ever since the investigation of the spread of typhoid fever in the United States military camps during the Spanish War of 1898, the evidence has been accumu-

1. Verworn: Bull. Johns Hopkins Hosp., 1912, xxiii, 97.

2. Graham: Jour. Exper. Med., 1912, xv, 307.

lating, until to-day there is no escape from the charges against this tantalizing insect. Every far-reaching probe into sanitary problems is liable to disclose conditions hitherto quite unsuspected; and the indictments already brought against the house-fly during the past few years charge responsibility for a long category of infections, including cholera and various forms of dysentery, diphtheria, erysipelas, contagious ophthalmia, cerebrospinal meningitis, anthrax and possibly small-pox, in addition to typhoid fever.[1]

Whether all of these charges will stand in the light of scientific investigation remains to be seen. It is important, not so much in justice to the accused insect as because of the hygienic and prophylactic measures which are dependent thereon, that the questions here raised be authoritatively settled. In the case of the infections of fecal origin, particularly typhoid, the evidence appears to be quite complete.[2] But are we not in danger of distracting attention from much more important factors by blindly encouraging a hyperenthusiasm for a single sanitary propaganda and fixing our hygienic viewpoint at a single center? This type of hysteria is by no means unknown in the history of public questions. It is constantly cropping out in the management of profound political and social problems. Perhaps it was with an appreciation of such tendencies that Dr. Torrey, of the Loomis Laboratory in New York City recently wrote:

"Although the guilt of the house-fly has been clearly established in certain instances as a typhoid-spreader, the relative importance of this vehicle of transmission as compared with the other well-known methods of transfer has been by no means clearly established. What is, perhaps, a timely warning of the danger, as regards the popular mind, of overemphasis being laid on this mode of transmission has recently been voiced by Chapin. He believes that unwarranted faith in the iniquity of these insects may lead to the neglect of the far more serious danger of contact infection, and that a failure of a decrease in the death-rate from typhoid after an enthusiastic antifly campaign would tend to bring discredit on the well-grounded warnings of health officers. 'It is probable,' he concludes, 'that under certain conditions, as in military and civil camps, and in filthy communities without sewerage, insects, especially flies, may be an important factor in the spread of fecal-borne diseases, but there is no evidence that in the average city the house-fly is a factor of great moment in the dissemination of disease.'"[3]

Here, then, is a demand for facts which Dr. Torrey has attempted to supply in some measure. He has examined the bacterial flora of flies caught in the densely populated parts of New York City during a series of months and over a range of weather conditions which might be expected to give suggestive data. Both the bacteria occurring in the intestine and those from the surface of the insects were investigated. The flies examined in April and early in June "were free from fecal bacteria and carried a homogeneous flora of coccal forms." As the summer season advanced high bacterial counts began to appear and also an abrupt change in the character of the bacteria, the cocci giving place in large measure to the bacilli characteristic of fecal matter. The record counts came at the end of the two weeks of excessive heat in July.

Some concrete idea of the number of organisms that a single insect may carry is indicated by the figures 570 to 4,400,000 for the surface contamination, and 16,000 to 28,000,000 for the intestinal bacterial content. Further facts of interest given by Torrey regarding the prevailing types of bacteria indicate that organisms such as the *Streptococcus equinus, fecalis* and *salivarius* group are found in the breeding and feeding places of the house-fly. There were none of the *pyogenes* types. The most important isolations were three cultures of *B. paratyphosus*. Since this is pathogenic for man, the findings cannot be overlooked with indifference. The house-fly is an "undesirable citizen" in any event, so that the war of extermination already begun against it in many quarters deserves encouragement and support.

1. Purdy: Jour. Roy. San. Inst., 1909, xxx, 496. Hewitt: Quart. Jour. Micr. Sc., 1909, liv, 347.
2. Chapin: The Sources and Modes of Infection, New York, 1910.
3. Torrey, J. C.: Numbers and Types of Bacteria Carried by City Flies, Jour. Infect. Dis., 1912, x, 109.

THE PRACTICAL EFFICIENCY OF MILK PASTEURIZATION

The pasteurization of milk and cream has come to be one of the routine requisites of certain departments of the food industries. Bacteriologic investigation has furnished an abundance of data to show the efficiency of the process in destroying some of our most dangerous organisms when the necessary temperature conditions are adequately fulfilled. There is no doubt in the minds of laboratory workers regarding the thermal death-point of some of the well-known microorganisms. If milk is heated to 140 F. and held at that temperature for twenty minutes, tubercle, typhoid and diphtheria bacilli will be killed. This statement rests on an established basis.

The safety of the milk consumer depends, not on a reasonably efficient method of bacterial elimination from the product, but on the destruction of every pathogenic organism present. A pasteurizing process may result in a very marked reduction in the total number of bacteria present. The keeping properties of the milk may be enhanced and other advantages gained; but as long as a single pathogenic organism remains to spread infection the foremost purpose of the operation will not be accomplished. Commercial pasteurization is necessarily a technical rather than a laboratory procedure. The question arises whether, under the exigencies of actual practice in dairy plants and creameries it is customary or even possible, with the outfits in current use, to attain the degree of success in the destruction of pathogenic microorganisms which the hygienic considerations demand.

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Under the auspices of the Milk and Baby Hygiene Association of Boston, Schorer and Rosenau[1] of the Department of Preventive Medicine and Hygiene at Harvard have addressed themselves to the problems in practical sanitation here involved. They point out that although it is a comparatively simple matter to produce satisfactory pasteurization in a flask or test-tube, physical difficulties arise where it becomes necessary to heat a large volume of milk to a definite temperature and hold it at that temperature for a given period of time. "The difficulties are increased in practice by the fact that milk is a viscid fluid, and by the fact that the milk to be pasteurized varies in temperature as it flows to the heater. When milk is heated rapidly, as seems necessary under commercial conditions, the devices for regulating the temperature are neither sensitive enough nor quick enough to ensure the heating of all the milk to the desired temperature."

There are several methods of pasteurization in current use. The flash method consists in heating the milk to approximately 170 F. by allowing it to flow in a film over heated metal pipes or coils and then chilling it at once. The home pasteurization of milk for infant-feeding is ordinarily accomplished by the bottle method, the containers being immersed in a water-bath and the heating process carried out in that fashion. There are obvious advantages in pasteurizing in the final container, whereby the danger of subsequent contamination is eliminated; but this method is not usually applied on a commercial scale. In practice the holding method prevails. The milk is heated to a temperature between 140 and 155 F., and then placed in a receptacle where it is held at this temperature for from twenty minutes to an hour.

Schorer and Rosenau have made special tests of the holding method under the conditions existing in a large dairy plant. They have ascertained to what extent the temperatures desired are actually attained in the factory manipulation of large volumes of milk; for this is obviously the fundamental consideration for the effective destruction of microorganisms. If the milk is unevenly heated some of the organisms may escape, despite the fact that the percentage reduction of the bacteria may be very large. Their careful temperature measurements only confirmed the non-uniform heating in the commercial pasteurizers where the heating surface is too limited, the flow too rapid and the holding tanks too small or too few. In other words the temperatures attempted are not always actually attained. There were variations of as much as 40 F.

The results of the investigation deserve study on the part of all interested in pasteurizing milk on a large scale. They show that an automatically controlled pasteurizer may not heat the milk uniformly until it has been running for some time. Where the process is interrupted frequently, therefore, the first runs should always be reheated to prevent the dangers of the earlier irregularities. Schorer and Rosenau believe that the process of pasteurization should not be hurried and that a temperature of 145 F. held for thirty to forty-five minutes would provide a liberal factor of safety; but care should be taken that the temperature does not go above 148 F., in order that the cream line may not be destroyed.

When all is said and done, there remains a human factor which must always be reckoned with. We recall the excusable consternation of the superintendent of a large up-to-date milk bottling establishment on the occasion of an inspection by prominent patrons. In the midst of every modern device for model dairying, a "green" employee was observed placidly shifting a series of bottles of purest milk by inserting his finger into the spotless containers and lifting them one by one by the neck. Despite most elaborate precautions it is not always easy to render every part of a commercial plant foolproof. Indeed, the limit of successful operation in more than one line of endeavor depends ultimately on the relative availability of human intelligence and the individual conscience.

1. Schorer and Rosenau: Tests of the Efficiency of Pasteurization of Milk Under Practical Conditions, Jour. Med. Research, 1912, xxvi, 127.

THE AMERICAN MEDICAL DIRECTORY

As the third edition of the American Medical Directory has just come from the press, a word regarding it and the reasons for its publication may not be out of place.

In 1901 THE JOURNAL commenced gathering and publishing facts and statistics regarding medical colleges and medical graduates in the United States. Later the results of state examining and licensing boards were obtained and published. It was but a step further to secure the names of and other data regarding the graduates and the licensees. This was done and, in a word, was the beginning — the foundation — of one of the important and far-reaching activities of the American Medical Association. When the Council on Medical Education was established in 1905, with a paid executive secretary, this work was thoroughly systematized and continued.

Now, through the cooperation of the various licensing boards, the Council obtains the names of those who pass the examinations and are licensed in the various states. With or without similar cooperation on the part of the medical colleges, a list of those graduating from the various schools of the country is obtained each year. Further, at not a little expense and persistent effort, the Directory Department, in connection with the Educational Department, has obtained a list of the graduates of practically all the schools either now existent or defunct. There have also been secured from the official records the names of those licensed in every state and territory since 1880. In each instance all essential data regarding

the graduate or licensee were secured as far as possible. Based on all this information, four systems of card indexing have been worked out: (1) an index of licensees, the cards arranged alphabetically under states; (2) an index of graduates, arranged alphabetically; (3) a geographical index, including practically all the names on the two preceding lists, arranged under states and cities, as they appear in the directory; and (4) the most important of all — a biographical index containing all the basic information on the other three sets of cards, together with other data regarding positions, society affiliations, etc. The collection of this mass of original data has been a gigantic task and its value — especially for the future—cannot be appreciated without personal observation of what it means. Now that these data are practically complete, they can and will be easily kept up to date.

In order that all these data might be made available and placed where the information would do the most good, one more step was necessary: the publication of the American Medical Directory, the third edition of which,[1] as already mentioned, has just been issued. It contains official and reliable information regarding over 147,000 physicians in the United States, its dependencies and Canada. The items regarding each physician include, besides the school, date of graduation and whether or not the physician is licensed, with the date of licensure, the following information, when obtainable: year of birth, preliminary education, membership in county, state, national and special societies, teaching and other positions. All this is given regarding non-subscribers to the Directory, as well as subscribers; all are treated alike.

One of the new features is a list of physicians whose present addresses are unknown. It is known, for instance, that a certain man was in practice at a given place. He is no longer there; no record of his death has reached us; he is "lost" so far as the Association's information bureau is concerned. The names of such men as these are placed on the list of physicians with unknown addresses.

From the moment that the first part of the Directory went to press until the last forms were printed, a large number of changes and deaths occurred. These are included at the end of the book in the form of addenda, thus bringing the matter up to almost the last moment.

Those interested in medical education will appreciate the complete historical account of medical colleges now existing, or that have existed, in the United States and Canada.

Another new feature that will be appreciated is a list of members, classified according to specialties, of the important special medical societies of the country. This list is arranged alphabetically by specialties and by states, thus giving the opportunity of looking up those following a special line in any particular locality. Under each state are found medical practice acts, licensing, examining and health boards, officers of state and county medical societies, city and county health officers, state institutions, hospitals, sanatoriums and homes, with other information relating to medicine in its broadest meaning.

In preparing the present issue, more than twenty thousand names, including those of recent graduates, have been added. More than thirty thousand membership changes have been noted; duplication has been avoided by a system of cross-references; "not in practice" indicates graduate physicians who have retired, whether to engage in teaching, in special research, or in business. The designation "dentist," "druggist," etc., after a name indicates a medical graduate who practices the profession named.

To reduce the size of the volume and make it more convenient to handle, a superior quality of light-weight imported paper has been used. We believe that the book will be regarded as a credit to the American Medical Association from every point of view. It is unnecessary to say that it is not a commercial enterprise; it is merely one piece of work which the Association is doing for the uplift of the medical profession and medicine in general in the United States.

Our thanks and appreciation are due to the officers of the various medical examining and licensing boards, of medical colleges, of the state and county medical societies and to others whose cooperation has made it possible to issue such a creditable register of the medical profession of this country.

1. See advertising page 52

THE PATHWAYS OF INHALED DUST

To the untutored individual the hygienic aspects of the dust problem present themselves primarily as dangers from the microorganisms which are carried in the air. He rarely considers, if indeed he even suspects, the other equally subtle ways in which an atmosphere laden with minute suspended particles may become inimical to health.

There are many industries and occupations attended with the necessity of breathing air more or less contaminated with dust, so that the respiratory problems suggested by this fact belong to the important considerations of modern industrial hygiene. The actual noxious significance of dust varies with its character. Bacterial dust obviously may act by inducing infectious processes, such as the conjunctivitis or catarrhal inflammations observed in rag-sorters. Other types of dust may assume a purely irritant rôle because of the physical form and texture of the particles; while others again may exert a toxic effect by virtue of their chemical qualities. Particularly injurious are those forms of dust in which the particles are irregular and pointed in form. Yet it is impossible to explain well-known peculiarities in the relative harmfulness of different kinds of dust on this

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basis alone. It is said, for instance, that the atmosphere about working places where sandstone is being dressed is decidedly more harmful than that in the vicinity of marble and granite shops or lime workers. Among the forms of chemical toxicity, industrial poisonings due to inhalations of dust laden with lead, arsenic, zinc, phosphorus or mercury are familiar. Organic compounds like anilin may also serve as the dangerous contamination of the atmosphere. Indeed, it is not commonly recognized that many familiar substances, such as the salt derived from ocean spray, may be carried long distances in the air.

Naturally enough the respiratory tract is taken to be the chief path of invasion for the dust we breathe in. The pathology of the inhalation diseases — anthracosis, siderosis, chalicosis — bears testimony to the burdens which may thus be put on the lungs. In considering palliative measures and preventive devices to be applied in industrial work it has become necessary to learn something more exact regarding the travels of inhaled dust in the organism as well as the actual quantities which represent dangerous or insanitary limits. Investigations which the Würzburg hygienist, Professor K. B. Lehmann,[1] has conducted along these lines with his pupils have furnished some unexpected facts. They have demonstrated that the great bulk of the inspired dust finds its way into the stomach, not into the lungs as has been confidently assumed. Obviously the dust is regularly caught by the nasal and pharyngeal mucosa and the dust laden secretion then swallowed. All of the inhaled dust was retained by the oral or nasal passage, yet less than a quarter of it entered the lungs at the best.

In the case of insoluble particles the gastro-intestinal path may furnish a most satisfactory channel for the subsequent elimination of the dust from the body; but soluble dust finds a peculiarly favorable chance for absorption along the same route, and the opportunity for chronic intoxications is thus easily established. In any event, the lungs escape the major part of the initial irritation.

In view of the current discussion of the rôle of finely divided fluid particles in the respired atmosphere it may be noted that such "sprays" were found to be completely retained or absorbed in the respiratory tract. Chemical compounds introduced in this way disappeared entirely within the organism, not a trace being returned with the corresponding expired air. The only barrier to a complete retention of fluid or solid particles is found in the tendency to sneeze under the irritation of foreign particles; yet this reflex is soon lost with a continuance of the inhalation.

1. Saito: Exper. Untersuchungen über die quantitative Absorption von Staub durch Tiere bei genau bekanntem Staubgehalt der Luft, Arch. f. Hyg., 1912, lxxv, 134; Lehmann, Saito and Gfrörer: Ueber die quantitative Absorption von Staub aus der Luft durch den Menschen, ibid, p. 152; Lehmann, Saito and Majima: Ueber die quantitative Absorption von Flüssigkeitstropfen als Grundlage von der Lehre der Tröpfcheninfektion, ibid., p. 160

Current Comment

CAN THE SPERMATOZOON DEVELOP OUTSIDE THE EGG?

The well-known investigations of Jacques Loeb on artificial parthenogenesis have demonstrated that eggs which cannot develop naturally without sperm can, by various artificial procedures, be caused to develop without being fertilized. His experiments have given rise to many interesting speculations, some bordering on the fanciful, regarding the nature of the fertilization process. The problem is, of course, one of fundamental importance. We need only recall the questions of heredity here at issue. But what of the spermatozoon? Can this in turn be made to "develop" without the egg, or is it necessary for the male element to come into contact with the egg in order to undergo the first phases of its normal evolution? Professor Loeb and Dr. Bancroft[1] have followed this inquiry on the fowl sperm removed aseptically from the lower portion of the vas deferens. Histologic changes of characteristic type were noted when cultures, so to speak, were made in yolk and egg-white. The spermatozoon undergoes a transformation into a nucleus. Whether it can undergo mitosis outside of the ovum remains to be seen.

SALT AIR, SUNSHINE AND CLIMATE

The significance of climate as a factor of therapeutic importance is generally conceded. Medical climatology cannot be said, however, as yet to rest on anything more than a crude empirical basis. Altitude, sunshine, salt air, ocean breezes and forest hills are expressions with which the practitioner now and then attempts to conjure his jaded patients. Not infrequently the spell is effective, bringing with it a renewal of vigor and restoration of health. Can objective causes for climatic influences be discovered? Are there detectable changes in physiologic activities which will explain the frequently observed beneficial effects of an ocean voyage, or a stay at the seaside? Professors Zuntz of Berlin and Durig of Vienna—both well-known European experts in the physiology of respiration and metabolism, who have devoted much energy to the study of the effects of high altitudes on man—have given some consideration to these questions.[2] In the course of an ocean voyage from Germany to the Canary Islands and return they made careful observations on various functions, such as pulse-rate, body temperature, respiratory exchange, etc. Despite the invigorating nature of the trip, these fundamental bodily features were not found altered in any detectable uniform degree. This corresponds with what has been observed in comparable investigations at seaside resorts[3] where the travel factor is excluded but the atmospheric conditions are similar in many ways. Neither such conditions, nor the tropics, nor yet polar climates effect any markedly detectable alteration in these physiologic functions. It is thus apparent that

1. Loeb, J., and Bancroft, F. W.: Can the Spermatozoon Develop Outside the Egg? Jour. Exper. Zool., 1912, xi, 381.

1. Durig, A., and Zuntz, N.: Zur physiologische Wirkung des Seeklimas, Biochem. Zeitschr., 1912, xxxix, 422.

2. Loewy, Müller, Cronheim and Bornstein: Einfluss des Seeklimas auf den Menschen, Ztschr. f. exper. Pathol. u. Therap., 1910, vii, Heft 3.

the organism strives tenaciously in the midst of the most varied climatic conditions to maintain unaltered those processes on which the vital nutritive exchanges hinge. In any event it has been impossible to demonstrate changes that might be considered indicative of a stimulating effect of ocean climates. A similar outcome has attended the careful experimental investigation of the effect of insolation. An abundance of direct sunlight, especially in some of the popular health resorts, has always claimed a due share of the credit ascribed to the invigorating climate. We read of the days of balmy sunshine. Careful scientific observations have not disclosed any palpable reactions indicative of heightened metabolism.[3] Notwithstanding all of these negative findings, however, no clinical observer can deny the therapeutic usefulness of a change of climate, despite the obscurity surrounding the secret of its influence on the individual.

HABITINA PROMOTERS RECEIVE WELL-DESERVED PUNISHMENT

About two years ago,[1] the attention of our readers was called to the product Habitina. Sold by the Delta Chemical Company, St. Louis, Habitina was advertised as a cure for the morphin habit. Any man, woman or child who wrote for it was sent a sample of Habitina containing eight grains of morphin sulphate and four grains of heroin hydrochlorid. Commenting on this matter, THE JOURNAL said:[2]

> "There is not a reputable drug-store in the United States that would dare to give a layman eight grains of morphin on no other authority than his simple request. Yet the human vultures that carry on this body- and mind-destroying traffic in 'drug cures' are permitted under our present laws—or lack of laws—to put into the hands of the ignorant or the criminal, for the mere asking, the most dangerous and treacherous of poisons."

No longer does this criticism apply. R. C. Prewitt, M.D., and Ryland C. Bruce, who constitute the Delta Chemical Company, were on April 30, 1912, each fined $2,000 and sentenced to five years' imprisonment at hard labor in the United States Penitentiary at Leavenworth, Kan., having been found guilty of sending poison through the mails and of using the mails for fraudulent purposes. The details of the villainous business in which Bruce and Prewitt were engaged are of such interest and importance to the public and to the medical profession that THE JOURNAL will, in an early issue, quote some of the testimony that was given at the trial. For the present, it is sufficient to record the punishment meted out to Bruce and Prewitt and to express appreciation of the splendid work done by Assistant United States Attorney Charles H. Daues and Post-Office Inspector F. W. Reuter in preparing and presenting the case to the courts, and to congratulate the public that it has in United States Judge D. P. Dyer a jurist who, by imposing the maximum penalty on Bruce and Prewitt, has done much to safeguard the public health and to inspire confidence in the court's protective powers.

3. Durig, A., Schrötter, H. v., and Zuntz, N.: Ueber die Wirkung intensiver Belichtung auf den Gaswechsel und die Atemmechanik. Biochem. Ztschr., 1912, xxxix, 496.

1. THE JOURNAL A. M. A., March 12, 1910, p. 880; see also p. 869.

2. March 12, 1910, p. 889.

MEN AND RELIGION—AND SANITATION

Enlightened public opinion is the most potent force toward better public health and sanitation. Physicians will succeed in their campaign for prevention of disease in proportion to the understanding of the value of health measures by the public and its cooperation to secure them. We recently commented[1] on the desirability of more cooperation between physicians and churches in public health education. The Men and Religion Forward Movement, which has caused a nation-wide sensation, has not restricted its activities to purely religious matters. Various social problems have been attacked; for example, a careful analysis of conditions in various cities has resulted in recommendations for improved sewerage and quarantine systems, protection of milk-supply, organization of health departments, better opportunities for harmless recreation, improved garbage collection, etc. In many cities excellent results followed the work. The fundamental basis was a survey of actual conditions, that is, the tabulation of all the ascertainable facts in the case before taking action. We are merely touching on the medical phases of this movement. Its chief work, of course, was religious, but the movement seemed to attack the human problem in all its ramifications — spiritual, social, physical — and to recommend improvements wherever it was thought wise. It is evident that the leaven of public education on health conditions is working. Great improvements in the sanitation and hygiene of the American people are due in short order as soon as the public is awakened to the possibilities.

INTERNATIONAL CONGRESS ON HYGIENE AND DEMOGRAPHY

Forty-two states and twenty-seven foreign governments have accepted the invitation to participate in the International Congress on Hygiene and Demography which meets in Washington next September. In calling attention to the interesting program, the committee mentions the extreme importance of the congress to our country, in that among the subjects discussed will be the extension of our system of reporting vital statistics, the prevention of infant mortality, the sanitary control of food-supplies, school and industrial hygiene, typhoid and hookworm, the cure and prevention of tropical diseases, and federal, state and municipal organization for the preservation of public health. This is the first congress of the kind to be held in the United States and attention is directed to at least one distinctive and beneficial result to the country in which each of the previous congresses was held. Important reforms in hospital sanitation followed the third congress, held in Paris in 1878. This was the chief subject of discussion at that congress. From the fourth congress, which met at Turin, dates the introduction of municipal hygienic measures into Italy, and the decline in the death-rate of Italian cities. The foundation of the federal bureau of health of Switzerland followed the fifth congress, held in Geneva in 1882. Hygienic reforms were inaugurated in the Dutch colonies following the sixth congress, held at The

1. THE JOURNAL, Queries and Minor Notes, "Church Dispensary," March 16, 1912, p. 804.

Hague in 1884. The complete transformation of hygiene and housing in the tenement districts of Vienna followed the seventh congress, held in that city in 1887. The ninth congress, held in London in 1891, was the starting-point for legislation for the health of wage-earners in England, in which respect England still leads other countries. The fifteenth congress comes at a time when public interest in all hygienic and sanitary matters is more wide-spread than ever, and with more definite ideas to work on concerning the origin and transmission of diseases, it cannot fail to have most far-reaching and important results in furthering all matters of public health. Previous congresses have been partially supported by the governments under whose auspices they met, and by private subscriptions and memberships. The Congress of the United States appropriated $20,000 for the preliminary work and has now provided $40,000 additional; $25,000 has already been raised by private subscription, but the committee now appeals for an additional sum of $50,000 to be raised from this source. The unfortunate failure of the United States to participate in the highly important hygienic exhibition at Dresden in 1911 should spur the authorities and citizens of the United States to provide amply for the complete success of the fifteenth congress and its accompanying exhibit.

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HAVE YOU WRITTEN TO YOUR SENATOR?

We print this week[1] an extract from the *Congressional Record*, showing the desperate efforts being made by the opponents of health legislation to confuse the real issue and to create an impression, in the senatorial mind, of intense popular opposition to the Owen bill. All the usual political devices have been used. The appeal to religious and sectarian prejudices, the hint of awful conspiracies against the people, the garbled quotation, the playing on the ignorance of the public, the twisting of definitions, the resort to popular catchwords, the use of the present feeling against "trusts," the parrot-like repetition of disproved and discredited charges — all these tricks of the political manipulator have been used. A considerable number of well-meaning but uninformed persons have been deceived by all this clamor, and have yielded to the common American instinct to sign any petition which may be presented to them. As Senator Owen says, the inspired character of such "appeals" is well known to all who have followed the fight for health legislation in the past two years. Yet to the average congressman such communications are not without effect; especially when not counteracted by expressions of contrary opinion. These carefully prepared and planned "petitions," instigated by the organization which has led the opposition, should be nullified. Quality and not quantity, however, should be the aim. If every reader of THE JOURNAL will write his senator, setting forth his views on the Owen bill, and will secure similar action on the part of the ministers, lawyers, school teachers, club women and business men of his city, the effect on the senatorial mind cannot fail to be illuminating. Copies of the report of the senate committee containing the text of the bill can be obtained by writing to the American Medical Association. The present battle is one between intelligence and ignorance. Will you see that the influence of the educated, intelligent people of your town is exerted on the side of progress and health?

1. Medical Economics, page 1467.

Medical News

CONNECTICUT

Dispensary Needs.—The Hartford Dispensary announces a deficit of $900 and makes an urgent plea for subscriptions to wipe out this indebtedness.

Hospital Dedicated.—The Cyril and Julia C. Johnson Memorial Hospital, Stafford Springs, has been formally dedicated. The hospital has cost $75,000 and will accommodate thirty-five patients. It has also an endowment fund of $200,000.

Library for Medical Society.—The Hartford Medical Society has practically decided on plans for a $10,000 addition to the Hunt Memorial Building, to be used for library purposes. Plans have also been outlined for an amphitheater, to cost about $15,000.

ILLINOIS

New Officers.—Central Illinois Medical Society, at Pana, April 30: president, Dr. S. E. Munson, Springfield; secretary, Dr. Walter Burgess, Pana.

St. John's an Open Hospital.—On April 29, St. John's Hospital, Springfield, ceased to have a regular medical staff, but became an open hospital, at which all regular practitioners will be admitted. The medical staff of the hospital voluntarily resigned, April 27, in order to bring about this new condition of affairs.

Personal.—Dr. W. S. Howell, Winnebago, has suffered a nervous breakdown and is under treatment in a sanatorium at Rockford.——Dr. W. H. Smith, Godfrey, who has been seriously ill with septicemia due to an operation wound, is reported to be securely convalescent.——Dr. John H. Rice, Quincy, has returned from Europe.

For Epileptic Home.—The board of county commissioners of Cook County has appointed a committee, which includes Dr. George F. Butler, county physician, and Dr. Stephen R. Pietrowicz, superintendent of the Dunning Institutions, to confer with the officials of Chicago, with a view of obtaining their cooperation in the construction and maintenance of an institution for epileptic children of the city and county.

Work of the Coroner's Office.—The coroner of Cook County has recently issued two circular letters to physicians. The first deals with criminal abortion, in which the doctor is asked to notify the coroner's office while the patient is still conscious, but when death is impending, or, when on account of the patient's condition this notification is inexpedient, to secure a needed ante-mortem declaration on the form prescribed; or if in doubt as to what action to pursue, to advise with the chairman of the Criminal Abortion Committee of the Chicago Medical Society, who will safeguard the interests of the physician inquiring. A second circular letter deals with the desirability of preventing the development of tetanus by the use of antitetanic serum. The records of the office show that from 1906 to 1911, inclusive, 157 verdicts of death from lockjaw were returned from the coroner's juries; two-thirds of these persons were treated in hospitals and one-third of them suffered from contused and lacerated wounds. The coroner urges the early and free use of antitetanic serum, to the end that mortality from tetanus may be reduced.

Chicago

Restraining Order Issued.—The scheduled opening of the Municipal Tuberculosis Sanatorium on West Twenty-Second Street has been postponed on account of an issuance of an injunction by Judge McDonald, April 30, restraining the opening and operation of the hospital.

Personal.—Dr. George J. Spencer, city physician, is ill with pneumonia in St. Ann's Hospital.——Dr. Liston H. Montgomery was elected secretary of the Ohio Society of Chicago at its meeting, May 4.——Dr. D. A. Horovitz sailed for Europe, April 30.——Dr. Jacob Frank has returned from a tour of South America.

New Site for Crerar Library.—The John Crerar Library has purchased land at the northwest corner of North Michigan Avenue and East Randolph Street, to be used as a site for its

new home. The new building will be delayed until the expiration or cancelation of leases of portions of the building now on the site. The property has a frontage of 135 feet on Michigan Avenue and 130 feet on Randolph Street.

Discipline Prevents Panic.—The practice of nurses, interns and orderlies in fire-drills kept more than two hundred patients at the Wesley Hospital from panic, May 3. The fire broke out on the upper floor of the institution. The nurses, as is provided in the fire drill, went directly to the beds, the orderlies followed to assist, while the interns went to the seat of the fire and used the hospital's apparatus to keep the flames under control until the firemen arrived.

INDIANA

Antituberculosis Association Organized.—At a meeting in Brazil, April 25, presided over by Dr. Henry Moore, Indianapolis, a Clay County Auxiliary Association of the Indiana Association for the Study and Prevention of Tuberculosis was organized and county and township officials were elected.

Board Must Authorize Practice Under Changed Name.—The State Board of Medical Registration and Examination, at its meeting April 24, passed resolutions providing that a woman physician in Indiana who has been licensed under her maiden name may not legally practice under the name of her husband until after taking the matter up with the board and having the original license modified to correspond with the new name.

Personal.—Dr. John W. Sluss, Indianapolis, candidate for a position on the City Board of Health, has announced the withdrawal of his name.——Dr. A. P. Buchman, Fort Wayne, will retire and move to Des Moines, Ia., and make his home with his daughter.——Drs. J. H. Ford and Moses Thorner have been appointed members of the Indianapolis Board of Health, vice Drs. Thomas B. Noble and Edmund D. Clark, resigned.——Dr. F. T. O'Leary, Logansport, sailed for Europe, May 8.——Dr. H. H. Elliott, Glenwood, has sold his home and announces his intention of retiring from practice.

MASSACHUSETTS

Operating Room Opened.—The new operating room for the Free Hospital for Women, Brookline, was formally opened May 2. Addresses were made by President Lowell of Harvard, Drs. William H. Baker, Charles M. Green and Maurice H. Richardson, all of Boston.

Cutter Lecture.—The second Cutter Lecture on Preventive Medicine was given at the Harvard Medical School, May 9, by Surgeon John F. Anderson, U. S. P. H. and M.-H. Service, Director of the Hygienic Laboratory, on "Some Recent Advances in Our Knowledge of Certain Infectious Diseases."

To Check Infant Mortality.—The health board and mayor of Boston have formulated plans for conducting a systematic crusade to check infant mortality in Boston. Three nurses have been transferred from the contagious disease work to join with two other nurses in visiting the homes of infants, to instruct and advise mothers regarding bottle feeding.

Personal.—Drs. Henry A. Christian and Thomas F. Leen, Boston, and Dr. George F. O'Day, Worcester, sailed for Europe, April 30.——Dr. Samuel A. Green, formerly mayor of Boston, who was knocked down by a horse about a month ago, is reported to be critically ill in the City Hospital.——Dr. Francis J. Keany has been reappointed a trustee of the Boston City Hospital.

New Officers.—Berkshire District Medical Society, at Pittsfield, April 25: president, Dr. I. S. F. Dodd; secretary, Dr. O. L. Bartlett.——Worcester North District Medical Society, at Fitchburg, April 23: president, Dr. Edward J. Tully; secretary, Dr. Curtis H. Jennings, both of Fitchburg.——Brockton Medical Society, April 11: president, Dr. R. A. Elliott, Avon; secretary, Dr. Harrison A. Chase, Brockton.——Springfield Academy of Medicine, April 9: president, Dr. Ralph H. Seelye; secretary, Dr. John M. Birnie.

MINNESOTA

Scarlet Fever in Rochester.—About sixty cases of scarlet fever are said to have been reported at Rochester, and it is said that three or four times that number exist, but have not been reported. The disease is of a mild type. Dr. Charles H. Mayo has been appointed health officer of the city, vice Dr. A. O. Adams, resigned.

To Investigate Diseases of Indians.—Dr. Taliaferro Clark, U. S. P. H. and M.-H. Service, has been detailed to go to Minnesota to cooperate with the state health officials in their investigations into the prevalence of trachoma and other communicable diseases among the Indians on state reservations, and to study the means of preventing the spread of these diseases to white settlements.

Personal.—Dr. H. A. Buell has resigned from the staff of the Shipman Hospital, Ely, to locate at International Falls.——Major Thomas C. Clark, Stillwater, for many years a member of the Medical Corps, N. G., Minn., has resigned.——Dr. W. L. Beebe, St. Cloud, has been appointed a member of the state board of veterinary examiners.——Dr. John Butler, Jr., Minneapolis, has returned from Europe.

Sanatorium Transferred.—The St. Paul Antituberculosis Society at its annual meeting, April 15, voted to offer the Cuenca Tuberculosis Sanatorium, Bass Lake, to the county board of control, on condition that it be maintained. At a special meeting of the board of commissioners of Ramsey County, April 29, the offer was accepted and the institution came under the management of the city and county board of control, May 1. The property is valued at $17,000 and was formerly supported from the funds of the Wilder charity.

MISSOURI

New Medical Society.—At a meeting held at the Baptist Hospital, Kansas City, recently, the East Side Medical Association was organized.

Memorial Hospital Planned.—Plans are being formulated for the establishment of a hospital for Mexico and Audrain County, in memory of the late Dr. E. S. Cave, Mexico.

Honors Former Dean.—The Boone County Medical Society gave a dinner in Columbia, April 25, in honor of Dr. Andrew Walker McAlester, formerly professor of surgery and dean of the School of Medicine in the University of Missouri.

Staff for New Sanatorium.—At a meeting of the board of trustees of the Ozark Sanatorium Association, Springfield, the following staff appointments were announced: surgeon-in-chief, Dr. Benjamin F. Fortner; assistant surgeon and pathologist, Dr. George B. Lemmon; internal medicine, Dr. Frank B. Fuson. Other appointments will follow.

The Noyes Bequest.—A meeting of physicians, clergymen and others interested in the proposed bond issue to erect a city hospital for St. Joseph was held at the office of Dr. Charles G. Geiger recently, to consider the project as affected by the Charles W. Noyes bequest. According to the will, $275,000 is placed in trust to build, equip and maintain a hospital in St. Joseph for the benefit of the deserving poor. In the opinion of some, this will take the place of a city hospital.

Personal.—Dr. T. A. Coffelt has been elected president of the board of directors of the Springfield Hospital Association, vice Dr. N. F. Terry, deceased, and Dr. C. E. Fulton was appointed Dr. Terry's successor as chief surgeon.——Dr. George M. Boteler has been appointed city physician of St. Joseph.——Dr. J. J. Bansbach has been appointed a member of the Board of Health of St. Joseph, vice Dr. S. F. Kessler, deceased.——Dr. T. N. Bogart, Excelsior Springs, will sail for Europe, June 6.——Dr. C. F. Shumate, Urbana, fractured his left leg in a runaway accident near Cotulla, Tex., April 13.——Dr. W. F. Smith, Springfield, has been appointed division surgeon of the Iron Mountain System of Arkansas, vice Dr. S. S. Stewart, Little Rock, Ark., resigned.——Dr. W. P. Rowland and family, Bevier, have started for Europe.

St. Louis

Hospital Addition.—A permit has been applied for to build an addition to the new Barnes Hospital, three stories in height, 158 by 44 feet, to cost $80,000 and to be used for private patients.

Appointments to Hospital Board.—Drs. H. Wheeler Bond and Martin F. Engman have been appointed and Drs. W. John Harris and J. B. Shapleigh reappointed members of the Hospital Board.

War on Mosquitoes.—Health Commissioner Starkloff estimates that to make an effective beginning in a campaign to exterminate mosquitoes, an expenditure of $25,000 or $30,000 for disinfecting material will be necessary.

NEW YORK

Offers Hospital to Methodists.—Dr. T. L. Deavor and other physicians have offered to build, equip and maintain a large hospital in Syracuse, to cost $100,000, and to turn it over without cost to the Women's Home Missionary Society of the Methodist Episcopal Church.

Society to Select Health Officers.—The Schenectady County Medical Society at its meeting, April 22, heartily concurred

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with the proposal of the mayor to name a health officer to succeed Dr. William P. Faust, recently resigned, from a list of five to be submitted by the society.

Personal.—Dr. John M. Griffin of Warrensburg sailed for Europe on April 24.——Dr. E. J. Kibbe, Saranac Lake, has been appointed physician in charge of the Vermont Sanitarium for Incipient Tuberculosis, Pittsford.——Dr. John A. Lane is reported to be critically ill at his home in Syracuse.

To Announce Fees in Advance.—At the semi-annual meeting of the Suffolk County Medical Society at Southampton, a resolution offered by Dr. Frank Overton, Patchogue, setting forth that the society recommend that, in every case of consultation or operation, the family physician shall agree with the consultant or surgeon as to the amount of money to be charged and shall state the charge to the patient before arranging for the consultation or operation, was discussed and will be held over until the next meeting.

Spends Millions for Charity.—The New York State Board of Charities has issued a statement showing that the public and private charities in the state which are subject to the visitation of the board cost the state $24,000,000 annually and that this cost is increasing at the rate of $1,000,000 each year. Approximately 2 per cent. of the state's population receives institutional support, which another 2 per cent. is given outdoor relief. There are about 30,000 feeble-minded persons in the state, 4,000 of whom are sequestered a part of the time, while 26,000 are at liberty.

New York's Plans for Hygiene Congress.—The State of New York is preparing to participate to the fullest extent in the Fifteenth International Congress on Hygiene and Demography next fall. Governor Dix has extended the President's invitation to some fifty cities which are all expected to send official delegates. In addition, the following were appointed by the governor as a committee to assist in planning the state's participation: Dr. Henry L. K. Shaw, Albany, Chairman; Dr. Joseph D. Bryant, New York City; Mr. Edward T. Devine, New York City; Dr. Eugene H. Porter, Albany; Dr. Luther H. Gulick, New York City. The sum of $10,000 was appropriated by the legislature to enable this committee properly to collect exhibits from the state under the charge of Mr. Charles F. Storey. It is expected, also, that many of the prominent institutions of learning and research in the state, including Columbia University, University of New York, College of the City of New York, Rockefeller Institute for Medical Research, Russell Sage Foundation and the National Civic Federation, will be represented at the congress. The American Association for Labor Legislation is preparing an interesting and comprehensive exhibit on occupational diseases.

New York City

Personal.—Dr. W. Martin, Dr. and Mrs. Anton Mayer and Dr. E. B. Bronson sailed for Europe on April 27.——Dr. Henry W. Frauenthal, his bride, and his brother were among the survivors of the *Titanic* disaster who were brought to New York on the *Carpathia*.

To Enlarge Hospital.—The Missionary Sisters of the Sacred Heart who for twenty years have maintained the Columbus Hospital on East Twentieth Street need a new and larger building. The hospital will not move but will repair its present building and add a new wing.

Memorial for Titanic's Doctor.—A committee has been appointed to take charge of a proposed memorial to Dr. William Francis Norman O'Loughlin, ship's surgeon on the *Titanic*. This memorial will take the form of an endowment for the pathologic laboratory at St. Vincent's Hospital.

New Hospital Building.—The Beth Israel Hospital Association has filed plans for a new hospital building which will be built on the northwest corner of Lexington Avenue and One Hundred and Thirteenth Street. It will be eight stories in height and have a frontage of 60.11 feet on the avenue and 73.10 feet on the street.

Polyclinic has New Ambulance District.—The Polyclinic Hospital which moved into its new building May 1 has been given a new ambulance district bounded by Forty-Second Street, Sixth Avenue, Ninty-Second Street and North River. Two new gasoline automobile ambulances will cover the district and a third has been ordered.

Trachoma Pupils Segregated.—Children with infectious eye diseases are to be segregated in special classes in Public School 97. These children have been excluded from the schools, but it is found that they are continually on the streets growing up without any training and are at the same time a menace to other children.

Name Hospital Ward for Titanic Victim.—The directors of the Home of the Daughters of Jacob have named the hospital ward the Mrs. Ida Straus ward, in memory of Mrs. Straus, who preferred to go down with the *Titanic* rather than to be separated from her husband.

Maternity Hospital for the Bronx.—A movement is on foot to establish a free maternity for the Bronx in the congested tenement district as the present dispensary maintained by the Jewish Maternity Hospital is entirely inadequate for present needs. Several large donations have been announced and a committee has been appointed to canvass the Bronx for donations.

Resolution Regarding Gathering Ashes and Garbage.—Dr. Linaly R. Williams, at a stated meeting of the Medical Society of the County of New York, held April 22, presented a resolution from the Public Health Committee, setting forth that as the present method of gathering ashes and garbage is unsanitary and obsolete, the society recommends to the proper municipal authorities that a proper study be made by them to ascertain a more sanitary method for the removal of ashes and garbage.

Saturday and Sunday Hospital Fund.—The Hospital Saturday and Sunday Association had apportioned $95,000, the largest collection yet made by the association, among forty-four non-municipal hospitals. The division was based on the number of days of free treatment given the poor regardless of race or creed for which the hospital had received no payment either from the city or the patient. Some of the larger apportionments were: Mount Sinai, $7,789; St. Luke's, $6,821; German, $4,677; Roosevelt, $3,863; Post-Graduate, $3,376; Lincoln, $3,181; Lebanon, $3,045; Beth Israel, $2,597; New York Orthopedic, $5,787; Ruptured and Crippled, $3,589; St. Mary's Free, $3,757; Misericordia, $2,927; Lying-In, $2,585; Montefiore Home, $9,500; Home for Incurables, $2,518; Flower, $2,000. A number of other institutions received sums of $1,000 or less.

NORTH DAKOTA

Medical Inspection Started.—Medical inspection of rural schools has been commenced in the southern half of Morton County.

Personal.—Dr. A. A. Westeen has been elected health officer of Grand Forks.——Dr. J. W. Stribling, New England, has been appointed physician of Billings County.

State Society Meeting.—The North Dakota State Medical Association will hold its annual meeting in Valley City, May 14-15, under the presidency of Dr. C. E. Spicer, Litchville.

State Sanatorium.—The work of construction of the North Dakota State Tuberculosis Sanatorium at Dunseith has been commenced and the institution will be ready to receive patients in the early fall.

OKLAHOMA

New Officers.—Clinical Society of St. Anthony's Hospital, Oklahoma City; president, Dr. J. F. Kuhn; secretary-treasurer, Dr. L. J. Moorman.

Personal.—Dr. F. G. Wilkiemeyer has been appointed assistant city physician of Muskogee, vice Dr. R. R. Smith, resigned. ——Dr. George B. Colby, Gracemont, was thrown from his buggy in a runaway accident, April 15, seriously injuring his spine.——Dr. T. A. Buchanan, Oklahoma City, while cranking his automobile, fractured his arm.

PENNSYLVANIA

Change in State Hospital.—During the coming year a sewage disposal plant and an incinerating plant capable of handling all garbage waste will be installed at the State Hospital for the Insane, North Warren.

County Society Periodical.—The Chester County Medical Society has commenced the publication of a bi-monthly journal, known as *The Medical Report*. Dr. William T. Sharpless, West Chester, is editor-in-chief.

Tuberculosis Car.—For the protection of passengers riding on the Cumberland Valley Railroad, a tuberculosis car has been attached to the noon train, which carries consumptive patients to the State Sanatorium at Mount Alto. After each journey the car is returned to the shops at Chambersburg and thoroughly disinfected.

Personal.—Dr. W. F. Morris, Scranton, is seriously ill as the result of an infected wound of the jaw.——Dr. C. M. Rosenberger, professor of bacteriology and hygiene in Jefferson Medical College, was the guest of honor at a banquet given by the Blair County Alumni of that institution at Altoona, April 23. A tentative county alumni association was formed.

Report of State Railroad Commission.—The report of the State Railroad Commission for the months of January, February and March show that 285 persons, including 135 employees, 3 passengers, 116 trespassers and 31 others were killed on the steam railroads of the state. This shows an increase of 17 over the number killed in the same period of 1911. The number injured reached 2,577, including 2,174 employees, 229 passengers, 107 trespassers and 67 others. The number injured shows an increase of 710.

New Societies.—A number of physicians of Pittsburgh, who have been meeting from time to time for two years past informally as a neurologic club, have formally organized a society for the study of nervous and mental diseases, known as the Pittsburgh Neurologic Society, which will meet five times each year. The society has a charter membership of nine. Dr. Samuel Ayres has been elected president and Dr. E. E. Mayer secretary.——The Medical Club of Harrisburg was organized, April 26, with an initial membership of twenty-one. Dr. Samuel Z. Sope was elected president and Dr. J. Harvey Miller, secretary.

Abington Hospital Assured.—The project to erect a hospital on the old York Road, in Abington Township, has received such support that the institution is assured. George W. Elkins, owner of Folly Farms, an estate in Abington, has given a site and the grandchildren of the late Mrs. William L. Elkins will give $10,000 as a memorial to her. The site comprises nearly two acres, is part of the Folly Farms estate and is worth over $7,500. Two directors will be selected from each suburban town which the institution will benefit: Abington, Glenside, Willow Grove, Hatboro, Jenkintown, Wyncote, Oak Lane and Noble.——It is possible that Cheltenham Township may have a hospital erected as a memorial to George D. Widener, one of the *Titanic* victims; such a movement is under consideration.

Philadelphia

Personal.—Dr. H. A. Steckel has been appointed a member of the staff of the State Hospital for the Insane, Mount Pleasant, Ia.——A reception was given April 14 to Dr. Z. M. Diodati, honor man of the last graduating class of Johns Hopkins University, Baltimore.

Changes at Jefferson.—At the meeting of the trustees of Jefferson Medical College, April 30, the resignations of Dr. James W. Holland as dean and professor of chemistry and toxicology and of Dr. Orville Horwitz as professor of genito-urinary surgery, were considered. Dr. Holland was reelected dean without a dissenting vote and both he and Dr. Horwitz were made professors emeritus.

Musser Memorial Fund.—Physicians of Philadelphia have been invited to join in honoring the memory of Dr. John Herr Musser by subscribing to the memorial fund to be used to endow the social service department of the University Hospital, Philadelphia, of which he was the founder and president. This movement was one in which Dr. Musser was deeply intrested and one of his last acts was to authorize a letter of appeal for aid for the service to be sent out in his name.

SOUTH DAKOTA

State Board of Health Changes.—At a meeting for the reorganization of the State Board of Health, May 1, Dr. O. N. Hoyt, Pierre, was elected president and Dr. W. L. Vercoe, Lead, secretary.——Dr. Hampton R. Kenaston, Bonesteel, has been appointed a member of the State Board of Health, vice Dr. William H. Lane, Miller, term expired.

VIRGINIA

Barbour-Page Lectures.—Dr. William H. Welch, Baltimore, delivered the annual lectures on the Barbour-Page foundation at Madison Hall, Charlottesville, April 17, 18 and 19.

Entrance Requirements Raised.—The executive committee of the State Board of Medical Examiners, at a meeting held in Richmond, April 26, revised the rules for medical examinations so as to conform with the law passed by the last legislature. These changes raised the entrance requirements of applicants for examination.

New Officers.—South Piedmont Medical Society, at South Boston, April 16: president, Dr. H. Singleton Belt, South Boston; vice-presidents, Drs. W. Macon Smiley, Houston; George P. Hamner, Lynchburg; I. C. Harrison, Danville, and C. H. Gibbs, Charlotte Court House; secretary-treasurer, Dr. George A. Stover, South Boston.

Personal.—Dr. George B. Lawson, Roanoke, has been appointed a member of the State Board of Health, vice Dr. Rawley W. Martin, Lynchburg, deceased.——Dr. M. P. DeBoe, Bedford City, who was operated on recently at the Jefferson Hospital, is convalescent.——Dr. Lonsdale J. Roper, Port Norfolk, has been appointed physician to the Norfolk County Jail, vice Dr. David F. Earnest, Port Norfolk, deceased.

WASHINGTON

New Officers.—Stevens County Medical Association: president, Dr. Winfred Mighell; secretary, Dr. I. S. Clark, both of Colville.

Hospital News.—A fifty-two-room hospital is to be built at Wenatchee, to cost $35,000.——The Prosser Sanatorium, which was destroyed by fire several months ago, is to be rebuilt this spring.

County Society Indorses Newspaper.—The Spokane County Medical Society has indorsed the policy of the Spokane *Chronicle* in refusing to accept medical advertisements of an objectionable nature.

To Trace Drift of Rodents.—In order to follow the migration of the rats of Seattle, the health department liberated twenty-five rats which had been dyed in brilliant colors for purposes of identification, and offered $2 for each of these rats, dead or alive, returned to the Department of Health. The department hoped by this means to be able to trace the migration of the animals from one section of the city to the other.

Personal.—Dr. E. B. Nelson, Spokane, who was bitten by a rabid dog, April 1, has completed the course of Pasteur treatment.——Dr. W. W. Ballaine, health officer of Bellingham, has been seriously ill with influenza.——Dr. J. E. Crichton, health commissioner of Seattle, has started on a two months' trip to Eastern cities to study tuberculosis and isolation hospitals.——The Spokane County Medical Society has appointed the following five physicians to supervise the medical work on the new tuberculosis sanatorium: Drs. Henry Power, Frank Hinman, A. C. Johnson, A. P. Tilmont and Alexander R. Lundgren.——Prof. E. J. McCaustland, Seattle, has been appointed a member of the State Board of Health, vice James R. T. Yocum, Tacoma, term expired.

WISCONSIN

New Officers.—Milwaukee North Side Physicians' Club: president, Dr. Arnold H. Drexel; secretary, Dr. William G. Weideman.

Clinical Department of University.—The University of Wisconsin promises to have a clinical department of the highest grade for the care of the health of the students. The department was established three years ago and since that time no epidemics have occurred among the students. A new building is planned, which, besides containing ten offices on the first floor, will have special treatment rooms, sterilization rooms and other special equipment.

Personal.—Dr. and Mrs. F. M. McGauley, Fond du Lac, have sailed for the Mediterranean.——Dr. L. E. Spencer, Wausau, has resigned as a member of the State Board of Health to accept the position of state sanitary inspector.——Dr. Gerhard A. Bading has been elected mayor of Milwaukee.——Dr. Cornelius A. Harper, Madison, has been elected chairman; Dr. T. L. Harrington, Milwaukee, treasurer, and Mrs. Julia Kurtz, Milwaukee, secretary of the committee appointed by the governor to prepare and assemble the Wisconsin exhibit for the International Congress on Hygiene and Demography. The other members of the committee are James D. Beck of the Wisconsin Industrial Commission, and Dr. Hugo C. Reich, Sheboygan.——Dr. G. L. Bellis, Antigo, has been appointed medical assistant at the State Tuberculosis Sanatorium, Wales.——Dr. J. N. Aubin, Peshtigo, who has been ill in a sanatorium near Chicago, has recovered and resumed practice.——Dr. Hugo F. Mehl has been appointed examining surgeon of the Milwaukee Pension Board, vice Dr. Gerhard A. Bading, resigned.

The Work Against Tuberculosis.—A free tuberculosis dispensary was opened in Racine, May 1, under the auspices of the local Antituberculosis Association.——Manitowoc is conducting an organized campaign against the spread of tuberculosis and the county will build a sanatorium, to cost $15,000.——Eau Claire County has decided to spend $16,000 for a county tuberculosis sanatorium, the site being furnished by the Eau Claire Antituberculosis Society.——La Crosse County, by a majority of 1,300 votes, has decided against the proposition to establish a tuberculosis sanatorium.——The Greenfield Tuberculosis Sanatorium has been placed under the supervision of the Milwaukee County tuberculosis trustees. Both free and pay patients will be admitted.——The tuberculosis sanatorium for Douglas County at Parkland, Superior, opened in February, reports that in the first month the men's ward was completely

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filled.——Racine County has a site for its sanatorium and $16,000 is available. This is sufficient to build, but not to equip the institution, and an endeavor is being made to have citizens of Racine furnish the thirty-six rooms.——The matter of the erection of a tuberculosis sanatorium in Dane County will be presented to the county board at its June session.

GENERAL

Army Medical Corps Openings.—For appointment of first lieutenants in the Army Medical Corps, examinations will be held July 15 and September 3. Full information can be procured from the Surgeon-General, U. S. Army, Washington, D. C.

Congress on School Hygiene.—The general committee of arrangements for the Fourth International Congress on School Hygiene, to be held in Buffalo next year, has selected Dr. Roswell Park, Buffalo, as chairman. Twelve subcommittees have already been appointed and the chairman of each with the officers of the general committee will make up the executive committee which has charge of all the local arrangements.

Convention for Sex Hygiene.—The second annual meeting of the American Federation for Sex Hygiene will be held in Atlantic City, N. J., June 3. There will be sessions in the morning, afternoon and possibly in the evening. The afternoon session will be devoted to a public meeting, at which former Attorney-General Charles J. Bonaparte, Dr. Edward Jackson, Denver; Rev. Mr. Goddard, St. Louis, and probably Mr. Jacob Riis of New York City will speak. The meetings will be held in the assembly room of Haddon Hall, under the presidency of Dr. Prince A. Morrow, New York City.

Personal.—Major Thomas L. Rhoads, M. C., U. S. Army, has been selected as the military aide by the president, vice Major Archibald W. Butt, who went down with the *Titanic*.——Dr. A. E. Campbell, Chicago, has been placed in charge of a department of health recently established by the Illinois Central Railroad. The purpose of this department is not only to educate the employees of the road, but the traveling public as well, as regards sanitation and right living.——Dr. John R. McDill, Manila, who has been in the Philippine Islands since 1898 and has recently been chief surgeon of the Government Hospital, has resigned and returned to the United States.

Additional Atlantic City Details.—The May 4 issue of THE JOURNAL was the Atlantic City Number, containing various details concerning the next session of the American Medical Association, June 3-7, 1912. There was an illustrated article on Atlantic City, the preliminary programs of the fourteen sections, lists of hotels, meeting places, railroad rates, entertainments, etc. A new feature at the Atlantic City meeting is the series of clinics to be carried out under the auspices of the Association. The program for the Monday clinics was given. Following are additional announcements: Women physicians of the American Medical Association have decided to give a banquet at the Hotel Dennis, Tuesday evening, June 4, at 7:30. The price will be $2.00 a plate. Remittances can be made to Dr. Clara K. Bartlett, 11 N. Caroline Ave., Atlantic City.——The General Alumni Association of the Medico-Chirurgical College of Philadelphia will hold a smoker at Atlantic City on the night of June 4. Communications relative to the smoker may be sent to Dr. A. C. Morgan, 3118 Diamond Street, Philadelphia.

Bequests and Donations.—The following bequests and donations have recently been announced:

Hospital for the Women of Maryland, Baltimore, $15,000, by the late Dr. Andrew H. Whitridge, payable on the death of his widow.

Tuberculosis Preventorium for Children, Farmingdale, N. J., $5,000, from J. Pierpont Morgan.

Presbyterian Hospital, Philadelphia, $125,356, by the will of Mitchell Valentine.

Seton Hospital, Philadelphia, $10,000, by the will of Mary H. Lawrence.

Presbyterian Hospital, Philadelphia, $15,000, to establish three free beds as the Dr. Reuben S. Carpenter Memorial, by the will of Cornelia Eaton, the residue of the estate to go to St. Vincent's Hospital.

Oswego (N. Y.) Hospital, $5,000, from Mrs. Charles W. Pardee, Buffalo, to endow a ward bed as a memorial to her husband.

Presbyterian and Mount Sinai hospitals, Philadelphia, $5,000 each, by the will of Admiral G. W. Melville.

Rush Hospital for Consumptives, Philadelphia, $1,000, by the will of the late Walter B. Lebranz.

Free Home for Consumptives, Dorchester, Boston, $2,000, by the will of Anna M. Healy.

Collis P. Huntington Memorial Hospital, Boston, an anonymous gift of $5,000, to establish the Lawrence-Carteret Fenno Memorial free bed.

Presbyterian Hospital, Philadelphia, a contingent bequest of $10,000, by the will of the late Caroline A. Burgin.

Pennsylvania and German hospitals, Philadelphia, $1,000 each, by the will of the late Louis Hillebrand.

Philadelphia Home for Incurables, $5,000, by the will of the late Harriet S. Evans.

FOREIGN

International Congress for Medical Electrology and Radiology.—The sixth international gathering on the above subjects will be held at Prague, July 26 to 31. The general secretary is Dr. K. Hynek, Hôpital général, Prague II, Bohemia.

Again that Fake Italian Scientific Academy.—O. Hammarsten of Upsala publishes in the current *Hygiea* a warning against the Accademia fisico-chimica at Palermo, Italy, stating plaintively that he was taken in by it a few years ago, as he saw the names of a number of prominent scientists in its lists of members and consented to have his name inscribed "for the usual payment of five dollars merely for the clerical work involved." Since then he has learned of the non-scientific character of the institution, his eyes possibly having been opened by the disclosures in THE JOURNAL Oct. 21, 1911, p. 1380, and he wrote to the Accademia to have his name dropped from the list of members. Not only have the promoters of the Accademia not done this, but he has again recently received a flattering follow-up letter from them informing him that he had "just been elected to membership," etc., when the accompanying list of old members already contained his name.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 27, 1912.

The Deaf and Dumb Under the Workmen's Compensation Act

The Workmen's Compensation Act, which was passed by Parliament a few years ago, was a great extension of an older act termed the Employers' Liability Act, and was drawn up to benefit the workman in every possible way, regardless of the interests of the employer or of the community. Like other philanthropic work done without due regard for economic principles, it has in some ways proved injurious to the very class it was designed to protect. The employer is rendered liable for every accident which arises "out of and in the course of" the employment even though the accident be due to the negligence of the workman, and, as is shown in previous letters to THE JOURNAL, the word "accident" is interpreted by the courts in the widest possible manner. The employers insure their workmen against accident claims. It often happens that a man is suffering from some slight physical defect which in no way interferes with his efficiency as a workman but renders him more liable to accident. Naturally, the insurance companies decline to take the risk and the man is prevented from obtaining work which he is perfectly fit to do. A deputation representing societies interested in the welfare of the deaf and dumb has been received by the government. The object was to point out the hardship to these afflicted persons, owing to the increased difficulty in obtaining work in consequence of the refusal of insurance companies to accept them under the Workmen's Compensation Act, contracting not being permitted. Some employers are willing to engage the deaf and dumb provided they bear the cost of an extra insurance rate incurred through their condition. But this causes a collision with the trades unions, as the proposal is held to be tantamount to paying less than the standard wage. The consequence is that the deaf and dumb in increasing numbers swell the ranks of the unemployed. The minister who received the deputation made a very belated reply. He began with the totally irrelevant observation that it was impossible either by sympathy or legislation to put the deaf and dumb on the same level as the rest of the population. The complaint was that legislation had made the position consequent on their infirmity much worse. He stated, however, that the government contemplated appointing a committee to consider possible amendments of the compensation act.

The Lowest Birth- and Death-Rates on Record

Once more the declining birth-rate is shown by lowest recorded birth-rate. The fifty-seventh annual report of the Registrar-General for Scotland has just been issued. In 1911, the births numbered 121,811, or 2,189 fewer than in the previous year. The rate was 25.65 per thousand of the population and was 2.72 less than the average for the preceding ten years. From 1855 to 1893 the birth-rate was constantly over 30 per thousand; from 1894 to 1904 it was over 29; from 1905 to 1909 it varied between 27.53 and 28.62; in 1910 it fell for the first time below 27 and last year below 26. The death-rate in 1911 was 15.1, which was also the lowest ever recorded in Scotland. In regard to vaccination, the report states that the proportion of vaccinated children has fallen to 67.6 per cent. This is the result of the act of 1907

which makes a conscientious objection to vaccination on the part of the parents a legal excuse for exemption. Similar facts in England have been described in previous letters to THE JOURNAL and the grave danger of an epidemic of smallpox in consequence of the neglect of vaccination pointed out.

Infectious Diseases in 1911

For the first time it has been possible to collect in one report a statement of all the cases of each notifiable infectious disease occurring in every sanitary district of England and Wales. The records for the year 1911 show that typhus has become nearly extinct (only sixty-five cases in the year). Of small-pox, only 265 cases occurred, while 13,730 cases of typhoid, 47,747 of diphtheria and 104,617 of scarlet fever were reported. Puerperal fever was responsible for 2,029 cases. No case of cholera occurred. Of pulmonary tuberculosis 35,107 were reported, but complete returns for this disease will not be available until the end of 1912. For each sanitary district rates per thousand of population are given for each infectious disease. Thus the student of epidemiology and the health officer can determine the "storm centers" and the places in which increased attention to preventive measures are required in the 1,800 sanitary districts into which the country is divided.

The Problem of Sleeping-Sickness

The problem of the prevention of sleeping-sickness continues to exercise the authorities responsible for the administration of our African colonies. In the House of Commons the colonial secretary, Mr. L. Harcourt, has announced that Drs. Kinghorne and Yorke of the British South African Commission, working in the Luangwa Valley, northern Rhodesia, have shown that *Glossina morsitans* transmits, in nature as well as in laboratory experiments, the human trypanosomes of that region, and that certainly wild animals are naturally infected. It follows that every effort must be made in Nyasaland and Rhodesia to destroy, where possible, and elsewhere to avoid, this species of tsetse fly. The commission examined ninety-eight wild animals, of which seventy-seven were antelopes and eight were pigs. In seven antelopes and one pig human trypanosomes were found. It has been shown that in other parts of Africa cattle and other domestic animals may harbor human trypanosomes without detriment to health. Consequently, it is possible that domestic animals, subject to the bites of *Glossina morsitans* also harbor the human trypanosome in Rhodesia and Nyassaland. If this should prove true it will greatly complicate the problem because it is out of the question to decree the destruction of all the domestic animals in Nyassaland. Similarly, it follows that the destruction of all or the greater number of the wild animals, as has been advocated, would be useless. Moreover, it is possible that if this were done the tsetse fly, unable to obtain the blood of these animals, would attack man and the domestic animals to a greater extent.

Disease and Compensation for "Accidents"

The workmen's compensation act entitles a workman to compensation for any accident "arising out of and in the course of his employment." Endless litigation occurs as to what constitutes an accident. This has been interpreted in the widest possible manner by judges. Thus, the widow of a workman who died from rupture of an aneurysm while tightening the nut of a screw has been granted compensation, though the effort involved was only trifling and ordinary. A case has just been decided in which the porter of a fever hospital claimed compensation because he became ill with scarlet fever, and as a result suffered from nephritis. Judgment was given in his favor but was reversed in the court of appeal. The presiding judge, the Master of the Rolls, said that there was no evidence to support the finding that the infection was an accident arising out of and in the course of the workman's employment. He pointed out that the award could not be upheld without implying that, whenever a nurse or an attendant in a hospital for infectious diseases contracted such a disease, it was an accident entitling to compensation. The act related to personal injury by accident and it did not follow that every injury arising in the course of the employment was an accident. The principles to be followed were contained in two cases in which it had been decided that a workman could not recover compensation unless he could prove the particular time, place and circumstances in which the alleged "accident" occurred. In the first case mentioned, a man engaged on sewer work contracted enteritis and the court of appeal decided against his claim because there was no evidence as to when, where and how he became infected. There are certain industrial diseases, such as lead poisoning, which have been specially scheduled as arising from dangerous occupations and for these a workman is entitled to compensation, but enteritis is not among them.

The London Milk-Supply

The public health committee of the London county council has reported that further legislation is urgently required in order to safeguard effectively the milk-supply of the metropolis. In 1909 more than 10,000 deaths occurred in England and Wales from forms of tuberculosis, other than pulmonary, in children under the age of 15. Of this number 2,806 in children under the age of 5 were attributed to tuberculosis of the digestive system. With these facts in mind the committee felt that although an impure milk-supply was only one of various sources of tuberculosis, every cause should, where possible, be removed. Examination of samples of milk obtained in London showed that a large proportion gave evidence of undesirable methods of production and handling. Dung, as well as a pinkish tinge, owing to admixture with blood, had been observed in milk. The bacteriologic examination of 7,896 samples of milk showed that 850 (10.8 per cent.) were tuberculous. Of 44,307 cows examined, 574 (1.3 per cent.) were found to have tuberculosis of the udder. The council has power to prevent the sale of milk of cows suffering from tuberculosis of the udder only. The committee considers that this power should be extended to include all cows suffering from tuberculosis with emaciation or giving tuberculous milk. The council has power to exclude from London milk from a farm on which tuberculosis has been proved, but it has no power to require the slaughter or prevent the removal of the animal giving such milk. Consequently, if the animal is moved all traces of it may be lost and its milk sold for human consumption until again detected. Further, the council has no power to deal with milk which, on examination, is deemed so filthy as to be unfit for human food. The committee recommends (1) legislation to make it possible to deal with a cow suffering from any form of tuberculosis and to prohibit the sale of its milk; (2) further powers of supervision of buildings where cows are kept or of milk exposed for sale; (3) powers to take samples in any place from the time the milk leaves the cow to the time it reaches the consumer; (4) adequate penalties; (5) the more complete supervision of the import trade with a view to providing that imported milk, equally with home-produced, shall be subject to proper control.

Anthrax Investigation

At Bradford, which is in the center of the woolen industry and in the district around it where most of the cases of anthrax in this country occur, a board for the investigation of anthrax has existed for six years. During this period seventy-one cases have occurred, of which twenty-four were fatal. Of the fatal cases, fifteen were of the internal and nine of the external type. During the last year, eight fatal cases occurred but in only one was medical advice promptly sought. Internal anthrax is so rapid that prompt treatment is necessary to give the patient a chance. The symptoms may be delusive, mere malaise being sometimes the prelude of death in twenty-four hours. In the report just issued by the board, Sclavo's serum is spoken of hopefully. In two of the cases of recovery the result is attributed to its intravenous injection. In another case, in which the nostril was affected 80 c.c. were injected subcutaneously with good effect. In one of the cases of intravenous injection 80 c.c were used. The board regards it as proved that blood is the carrier of the anthrax spore and thinks that all danger would vanish if it could be excluded from the raw material used. A case of anthrax occurred in a Persian wool-worker and in the remaining bales were found ninety-nine samples of blood-stained wool, of which ten were infected with anthrax spores. In one they were so numerous that it was considered certain that anthrax would have occurred during their manipulation. It is during the "carding" process, when the wool is torn apart by high-speed machinery, which shoots particles and short fibers into the air, that most cases of anthrax infection occur. It is suggested that receptacles for blood-stained fibers be provided and regularly emptied and cleansed, and that workers, encouraged by premiums paid for its discovery, should be trained to search for dangerous material. No special danger appears to attach to searchers who handle the blood-contaminated wool. Apparently it is not until the dried clot is diffused by haphazard handling or disintegrating machinery that risk arises. To assist the workers to recognize the blood-contaminated material, Dr. Eurich, bacteriologist to the board, has given demonstrations at the factories and exhibits of blood-stained samples are to be placed in the public museums and factories

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of the district. No reliable germicide has been found. Cyllin and formic aldehyd alter the outer layer of the blood-clot, which prevents penetration to the spores in the interior.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, April 26, 1912.

Death of Professor Lande

Dr. Lande, professor of legal medicine at the Faculté de médecine de Bordeaux and president of the Association générale des médecins de France, has just died, aged 69, during the annual session of the association. He had just delivered the presidential address when he fell stricken with cerebral apoplexy. Dr. Lande had acquired a great reputation as a medicolegal expert, and was also much interested in all professional questions. He founded, with Dr. Cezilly, the Caisse des pensions de retraite du Corps médical français in 1901, and was vice-president of the Council of the Association générale des médecins de France. Last year he was president, succeeding Lannelongue, Brouardel and Lereboullet.

Honor to Professor Grasset

On the thirtieth anniversary of his professorship, the colleagues, pupils and friends of Dr. Grasset, professor of the medical clinic at the Faculté de médecine de Montpellier, presented him in an informal session held in the festival hall of the *Palais Universitaire* of Montpellier, his own bust and medal, both executed by the sculptor Injalbert, the medal bearing on one side a portrait of himself and on the other a representation of the edifice of the Faculté de medicine de Montpellier. Speeches were delivered by St. Benoist, rector of the university, and Professor Rauzier, one of Grasset's favorite pupils.

Transverse Ecchymosis at the Bend of the Elbow as a Sign of Fracture of the Extremity of the Humerus

On April 23, Dr. Kirmisson, professor of the surgical clinic of children's diseases at the Faculté de médecine de Paris read before the Académie de médecine an interesting paper on fractures of the elbow, which are of great importance in surgery of children because of their frequency and the difficulty of diagnosis. In addition to the classical differential signs between these fractures and backward luxations of the elbow, Kirmisson attaches great value to the transverse ecchymosis existing at the bend of the elbow in supracondylar fractures of the humerus with forward displacement of the superior fragment. This ecchymosis is produced by the sharp edge of the superior fragment, which causes contusions from within outward of the tissues underlying the skin. Observed a short time after the accident this ecchymosis is transverse and sharply defined as if it had been produced by a blow applied on the anterior surface of the elbow by a sharp straight edge. Later it becomes diffuse and its appearance is less well defined. Its manner of production explains the fact that it is not found with the same clearness in luxations of the elbow, in which the bloody effusion is much more diffused.

A New Professional Organization

The Association amicale de médecine et de chirurgie, which was founded a few months ago, has just held its second general session. It consists of physicians who have the same ethical ideas and who have agreed to abstain from exploiting the patient, from secret fee-splitting and, generally speaking, from every practice which is not in the exclusive interest of the patient.

Assistance to Mothers

The Municipal Council of Paris has just decided that from January 1 next every pregnant woman domiciled in Paris not less than two years whose household has not an annual income of over $360 (1,800 francs) has a right to assistance. In order to be benefited by this right, she must declare her pregnancy at the *mairie* of the arrondissement in which she is domiciled before the seventh month. She will then be placed on the list of the Mutualité maternelle and will receive its benefits. A woman whose husband is in military service will be allowed benefits, though she may not have lived in Paris for two years.

Care of Children with Favus

The minister of the interior has just called the attention of the prefects of the departments of France to the necessity of isolating and treating those affected with favus. A service for treatment by *x*-rays is now in practice at the Saint Louis Hospital in Paris. The minister believes that it would be desirable to have children with favus sent there from other parts of France. There are, indeed, in certain provincial hospitals favus services, which are the most neglected in the hospitals. Children remain there for years, almost always insufficiently treated. They go out at the age of maturity, without instruction and without trades, and often even not cured. Of course, during this period they have been prevented from infecting other children, which is something; but their long stay in the hospital has been a heavy expense. To send such children to a service like that of the Saint Louis Hospital, from which they would be discharged cured in a few weeks would be most advantageous for these unfortunate children and also a wise financial measure. On the advice of the superior council of the Public Charities (Assistance Publique) of Paris and of the municipal council the Saint Louis Hospital has been authorized to receive these young patients for a daily charge of 60 cents (3 francs) instead of the usual charge of 94 cents (4.70 francs).

Twenty-Second Congress of Alienists and Neurologists

The twenty-second Congrès des médecins aliénistes et neurologistes de France et des pays de langue française was held at Tunis April 1 to 7 under the presidency of Dr. Mabille, physician-in-chief of the asylum of Rochelle. Because of the special nature of the subjects discussed, the departments of the interior, the colonies, war and the navy took official part in the congress through delegates. Three interesting questions were discussed:

NERVOUS AND MENTAL COMPLICATIONS OF MALARIA

Dr. Chavigny, *agrégé* professor at the Ecole d'application de médecine et de pharmacie militaires du Val-de-Grâce, emphasized especially the difficulty of defining exactly the symptoms of the complications of malaria so as not to risk confusing intercurrent diseases with it. Neither bacteriology nor therapeutic action offers a sufficiently distinctive criterion. If, for instance, one were to include all cases in which quinin has been efficacious, there would be many that were not malarial. Among the nervous complications, an attempt has been made to describe separately the early and the late complications. Dr. Chavigny believes that the distinction is often theoretical rather than clinical. It would seem simpler to divide them, in accordance with the organs attacked, into peripheral, medullary and central affections and affections of the sense organs. Among complications bearing on the peripheral and nervous system, one finds neuralgia of the trigeminal nerve most frequent and the most clearly defined; then, in the order of the frequency, sciatic, occipital, intercostal and ovarian neuralgia and coccygodynia, but it is important to recall that in all climates quinin is a sedative for even the most ordinary neuralgia. There is, therefore, nothing astonishing in the fact that in foreign countries neuralgic affections are considered malarial even though they have nothing to do with malaria. Some still unpublished experiments of Dr. Dopter tend to show the existence of malarial toxins and a relationship between malarial and alcoholic forms of neuritis. Since malaria does not protect subjects from syphilis or alcoholism, it is sometimes difficult to ascertain the true pathogenesis of certain myelites in patients who are both malarial and alcoholic or both malarial and syphilitic. In all cases of frankly malarial medullary affections, the prognosis is extremely variable and everything depends on the action of the quinin. In recent cases when malaria is really in question, quinin acts rapidly and the cure is prompt and complete. In other cases, the prognosis remains what it has habitually been, that is, generally grave. In complications affecting the nervous centers, large numbers of cases of aphasia have been observed, sometimes transitory and sometimes lasting, hemiplegia and various paralyses, etc. The mental complications of malaria include neuroses, psychoneuroses and psychoses. The number of women presenting these complications is higher than that of men. Since women are more frequently affected with malaria than men, the large proportion of mental troubles in women is an argument in favor of the theory that they are due in large part to predisposition, and against the theory that alcoholism is always a common basis of malarial delirium. Malaria is an undeniable etiologic factor and frequently the cause of neurasthenia. This is easily explained by the organic break-down of malaria. In regard to malarial psychoses, there are two well-defined opinions: one, that of Professor Regis of Bordeaux who thinks that there are psychoses that really originated from acute or chronic malaria; the other is the classic opinion that a malarial psychosis no more exists than does a typhoid or puerperal psychosis, and that malaria

is only a favoring cause which brings to light the morbid predispositions of the subject. Dr. Chavigny thinks that it is not impossible to reconcile the two theories by admitting the necessity of individual predisposition.

In the discussion Professor Regis emphasized the reality of malarial mental troubles. He recognized, however, the difficulty involved in a poly-intoxication in which too often alcohol is a factor; but chronic malaria creates a condition of physical and mental inefficiency with a failure of memory to a degree rarely found in alcoholism even at the period of breakdown. Dr. Vigouroux of Paris gave the history of a malarial patient who after twenty years of good health had intermittent periods of mental confusion lasting several days and followed by a complete remission during two or three weeks. In the fourth attack the patient died in coma. An anatomic and pathologic examination showed the existence of cirrhotic liver and malarial spleen and very intense cellular lesions in the brain.

INSTINCTIVE PERVERSIONS

According to Dr. Dupré, physician of the hospitals of Paris, instinctive perversion appears as a form of psychic debility and a disequilibration which always complicate various pathologic associations, especially anomalies of intelligence, character, humor and activity and which express themselves particularly by the most various antisocial acts. Being constitutional, the perversion of instincts in its serious forms is refractory to all therapeutic means. In its ordinary, light and partial forms it is susceptible to improvement by education, example and moral culture like the other phenomena, equally constitutional, which are associated with it. It would be well to found special establishments midway between asylums and prisons—"asylums of safety"—for dangerous abnormal subjects, vicious psychopaths, moral imbeciles, etc., and for persons affected with instinctive perversions. Dr. Anglade of Bordeaux does not share the pessimism of Dr. Dupré but believes that good surroundings, good examples and return to the soil are better than residence and education in penitentiary colonies. Professor Regis also believes from an extensive experience in the benefit of the well-directed mental orthopedics for these perverts. He believes it well to imitate the example of the Americans who have erected reformatories in which unmoral children are subject to the oversight of the alienist and to education by special teachers. Dr. Vigouroux also cites several establishments in which the results are encouraging. He mentions the injurious influence of puberty in which one sometimes sees the appearance of some of these perversions but he remarked that finally an amelioration may occur, permitting these perverts to resume normal life. Dr. Claparède of Geneva likewise emphasizes the good results obtained in special conditions by mildness and patience. Dr. Ley of Brussels reported personal observations showing good results of education among young perverts. Dr. Voisin of Paris remarked that that there was at Salpêtrière a reform school receiving girls of every class from the psychic point of view. In ten years out of 200 girls, only five were sent to insane asylums. The others, having received elementary instruction and having been improved by intensive work on them, have been returned to outside life and no bad reports have been received in regard to them. Professor Gilbert Ballet of Paris said that he shared in Dr. Dupré's pessimism in regard to the moral amelioration of the pervert.

THE INSANE IN THE COLONIES

Following a paper presented by Professor Regis and Dr. Reboul, a resolution was adopted that the transportation of the indigent insane into the asylums of continental France should cease entirely within three years, since the insane should be treated, as far as possible, in their own country, their expatriation having very bad influence on their mental trouble. It is, therefore, necessary and important to make suitable provision for the insane in the colonies. Morever, to prevent insanity in the colonies a selection of the Europeans sent there should be carried out with regard to mental qualifications; and alcoholism especially, an important factor in psychoses, ought to be combated immediately by most energetic measures instead of being favored as often as it is to-day.

Personal

The following professors have retired: Dr. Armand Gautier, professor of organic and mineral chemistry at the Faculté de médecine de Paris; Dr. Coyne, professor of pathologic anatomy, and Dr. Demons, professor of clinical surgery of the Faculté de médecine de Bordeaux; Dr. Maurel, professor of experimental pathology, and Dr. Frébault, professor of chemistry and toxicology, of the Faculté de médecine de Toulouse.

The Société de géographie in Paris has awarded its large gold medal to Dr. Charcot for two explorations in the Arctic regions.

Antityphoid Vaccination in the Navy

On favorable decision from the Superior Council of Hygiene the minister of the marine has authorized the application in the navy of antityphoid vaccination.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, April 18, 1912.

Personal

Prof. R. Frommel, formerly director of the university gynecologic clinic at Erlangen, died early in April at the age of 57. He began his career as assistant of the noted gynecologist Professor Schröder of Berlin, joined the faculty at Munich in 1882 and was made a regular professor at Erlangen in 1887. Some years ago he was obliged to resign his position on account of sickness.

Professor Angerer of Munich has been elected president of the German surgical society (Gesellschaft für Chirurgie).

Professor Menzer of Halle has been elected director of the department of internal medicine in the Augusta hospital at Bochum.

Professor Vossius of Giessen celebrated his twenty-fifth year jubilee as professor April 12.

The Proposed Frankfort University

The plan for founding a university at Frankfurt a. M. has again made a step forward. The municipal authorities are said to have agreed to the final arrangements between the founders of the university and the Prussian government, and from what has become known of the business, it may be assumed that the Frankforters have determined to accept the conditions imposed by the Prussian government. The expenses of the entire support of the university are to be borne by ten founders, among which the city itself, the well known Senckenberg natural science society (Naturforschende Gesellschaft), the Stern medical institute, Speyer's fund for research, etc., are included. The management of the university is to be placed in the hands of a governing and an executive board, the Grosser Rat and the Kuratorium. The mayor of the city is to be the president of both boards. The following faculties are contemplated: jurisprudence, medicine, philosophy, natural science and social and economic science. According to a statement by the city government, there are already available for the medical school, auditoriums and lecture rooms in the different clinics and institutes with 630 places.

Treatment of Industrial Electric Accidents

The Prussian minister of trade (Handelaminister), at the instigation of the German association of electrical workers, has called the attention of the officials under him to the fact that blunders are often made in attempts at resuscitation of persons who have been stunned by the electric current. Among other things it is emphasized that attempts at resuscitation are often begun too late. It is particularly unfortunate that miners believe that the injured man in the mine must be brought to the daylight. Valuable time is lost by this so that the injured often succumbs in transit. Moreover attempts at resuscitation are often not continued long enough. Repeated experiences have shown that success is attained many times after a continuation of the attempts at resuscitation for hours. As an example he cited the cases of three soldiers who were struck by lightning, of whom one was restored to life after two hours of efforts for resuscitation and a second not until after four hours.

Protest Against the Instruction of Laymen in Orthopedic Curative Gymnastics

At the recent congress for orthopedic surgery, held at Berlin, the following resolution was adopted: The association for orthopedic surgery (Gesellschaft für orthopädische Chirurgie) holds the systematic instruction of the laity in general orthopedic curative gymnastics by medical institutes to be very objectionable because, owing to the progress of science, for this work specialist skill has become more and more necessary. For medical institutes to train laymen in such work, with the special purpose of employing it later as an independent means of livelihood, seems to be particularly objectionable on account of the serious injury to patients which may arise from it.

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Congress for the Investigation of Families, Heredity and Eugenics

April 11 the Kongress für Familienforschung, Vererbung und Regenerationslehre met for the first time in Giessen. Its originator is Professor Sommer, director of the psychiatric clinic at Giessen, who has rendered great service by his research on the subject of heredity for clinical purposes and who has induced concerted action by scientists in different lines for the collecting of correct genealogies. Professor Sommer and his assistant Professor Dannemann treated in two extensive papers the four essential categories for all questions of heredity: the normal; the highly gifted (geniuses); the defective (pathologic) and the criminal. Sommer spoke of the importance of the congenital development forces (*Anlage*); he proceeded from the fundamental conception of the soul as an indivisible whole (Cartesius) which about a hundred years ago was replaced by the recognition of the multiple character of the individual intellectual faculties, and mentioned the theory of localization of these faculties and its originator, Gall, and then called attention in detail to the importance of experimental psychology for the investigation of the congenital developmental forces. As in all four categories the same problems appear, the same methods of examination may serve as a rule for the investigation and to a certain extent for the measurements of the inherited anlage. He effectively illustrated his address by tables, in which, for instance, the reaction time of the average man, of the scientist, of the criminal and of the feeble-minded were placed side by side; among the special points emphasized were the quickness of the reaction and the constancy of performance on repeated trials.

After a description of the Mendelian laws of heredity and their relation to consanguineous marriages, Sommer described extensively the important mathematical formula which he had obtained regarding the number of common ancestors of those who had married relatives, in other words, the sum total of the common germinal plasma. This conception is of fundamental importance, both in good cases (the establishment of the racial strain with respect to its desirable qualities), as well as in a bad direction (the taint with injurious pathologic stigmata from both sides). In conclusion he discussed the inheritance of disease. Congenital imbecility is often an endogenous variation, that is, it is born with one, although it may not manifest itself until after the completion of growth, but its congenital nature should not be overlooked. Still, however, the exogenous causes must be studied because they sometimes may be summated before it is possible for the tendency to become manifest. In order to determine whether an organ has the predisposition to a definite disease, new methods of examination are needed, such as have been in late years devised for mental affections. Only in this way is it possible to secure in place of the mystic conception of "inherited predisposition," clear and measurable values. The psychoses have been most extensively studied along these lines, then eye diseases, skin diseases and ear diseases.

Dannemann discussed the still wide-spread opinion in the minds of the laity that all individuals with an inherited taint are unconditionally endangered. This idea came from the false methods of former investigators. In a surprisingly large proportion (about 59 per cent.), healthy people were found to have some insane among their families, so that the dogma is thoroughly refuted. Only by identical converging inheritance, that is, from the father and mother equally, is the danger really great.

He denied the claim that civilized man is undergoing a progressive degeneration, saying that the favorite argument of the increased numbers of inmates in our insane asylums loses its force when we reflect that in modern times we usually compel the insane to be removed from their families and placed in special institutions.

Sometimes a psychic defect shows itself later, after the conviction, during the performance of the sentence, and carries its bearer from the prison into the insane asylum. Our judges should be trained to recognize the mentally unsound at an early stage so that they may call in the aid of a psychiatrist at the proper time.

Further development of prophylactic education is demanded, particularly an extensive application of the principle of continued legal minority for every one who does not conduct himself rationally in human society. Naturally there is here no idea of private guardianship but of a state guardianship, with effective permanent control of the person in question. Deliberate transmission of venereal disease should be treated according to the method of the Austrian criminal law, and alcohol as a cause of crime should be combated by the compulsory treatment of drinkers in asylums and a limitation of the drinking customs.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 15, 1912.

Another Generous Bequest for a Children's Hospital

While at times our rich men are apt to forget the needs of their poorer brethren, this year several substantial sums have been donated for hospital purposes, as mentioned in previous letters. Now again, a sum of 2,500,000 kronen ($500,000) has been left, by the will of an eccentric personage, to the Jewish Board of Guardians in Vienna for a children's hospital to which patients of all creeds are to be admitted, according to the terms of the will. The man who bequeathed this large sum of money to charity was known to live on dry bread and water. He never had a fire in the stove of his very small room, and never smoked or drank alcohol during the 87 years of his life. Ever since his thirtieth year he was thought to be a hungry, miserable beggar. He hungered for the sake of charity, and he died in a hospital managed by the Jewish board mentioned above. The surprise when his will was opened was really extraordinary. The amount of this bequest, with some other funds recently left to charity, makes a sum of over $1,200,000 (6 million kronen) available for a children's hospital, and this will soon, it is hoped, be opened for the benefit of the poor children.

The "Lupusheim" in Vienna

There exists in Vienna a special hospital for lupus, under the well-known surgeon-dermatologist, Professor Lang. At present it is only in its temporary home, so that its activity is rather cramped by the scanty accommodation it can offer to its patients. Nevertheless, in 1911, more than 1,580 patients from all parts of the Austro-Hungarian empire received treatment. Surgical removal of lupus, Finsen light, *x*-ray, radium, uviol and quartz lamps are the chief methods of treatment. The plastic operations necessitated by lupus are most interesting. These were brought near to perfection in the Vienna institution. The new lupus hospital will be ready for use in a few months, and, as it will cooperate with a large general hospital (the Wilhelminen Spital) of this city, it will be able to render help to a much larger proportion of patients of this class than any other similar institution in the world. Numerous surgeons from foreign countries come here to see the work done in the Lupusheim, and patients from Asia, Australia and Africa have been treated here.

Regulations for the Sale of Potent Drugs and Patent Medicines

Owing to the large number of "patent medicines" thrown on the world's market—some of the very potent drugs are among them, too—the Austrian Board of Health (Oberste Sanitätsrath) has revised a number of regulations pertaining to this matter. Before any remedy can be offered to the public, it must be examined by the authorities, who decide whether it may be placed on the market without any restriction, or whether it may be sold only by the apothecaries. In the latter case, a written prescription, signed by a doctor of medicine, must be produced by the purchaser. All remedies containing any alkaloid, hypnotic or any other substance with a toxic effect are excluded from unrestricted sale in a most rigid fashion. In fact, it is impossible in this country to get a grain, or a fraction of one, of cocain, morphin, arsenic, strychnin or atropin without a prescription. The medical profession has for a long time tried to prevent the repeated use of a prescription for one of these habit-forming substances, but in vain; on the other hand, the pharmacist entitled to sell these drugs is controlled by a very effective method of supervision of this business. So far the conditions prevailing in this country are satisfactory from the point of view of the doctor and the public, for much is done to protect the latter against the pilfering of unscrupulous "patent-medicine" fakers. The importation of ready-made medicines manufactured outside of Austria is regulated on the same lines as mentioned above, and the importing firm in this country is regarded as an agent of the manufacturer and held responsible for the product it imports. Therefore the firms, mostly consisting of chemists, are alert to avoid the heavy fines imposed on a violation of the law. Similarly, the sale of "patent medicines" containing alcohol is under a very strict supervision, for the state would not care to miss the high tax imposed on all imported or home-made alcohol. It is therefore readily understood that "patent medicines" are not a very important item in the business of chemists.

Marriages

EDWARD STANLEY BERRY, M.D., Shippensburg, Pa., to Miss Margaret Irene Smith of New Cumberland, Pa., in Philadelphia, April 16.

WILLIAM SURBUR PORTER, M.D., Oakland, Cal., to Miss Dorothy K. Deering of Philadelphia, at Santa Cruz, Cal., April 20.

CHARLES PARMENAS HENRY, M.D., Basking Ridge, N. J., to Miss Adelaide Louise Ermentrout of Reading, Pa., April 23.

JOHN ELLSWORTH TAYLOR, M.D., Leopold, Ind., to Miss Katherine Burke of Booneville, Ind., April 17.

JOSEPH FRANCIS WALCH, M.D., Lawrence, Mass., to Miss Mary I. Lyons of Haverhill, Mass., April 24.

JAMES DENNIS V. SHEEHAN, M.D., to Miss Florence MacDonald, both of Syracuse, N. Y., April 23.

JAMES WILSON MCMURRAY, M.D., to Mrs. Alice C. O'Connor, both of Marion, Ohio, April 2.

BENNETT F. BUSSEY, M.D., Texas, Md., to Miss Katherine M. Craig, at Baltimore, April 25.

EARL JESSE THOMAS, M.D., to Miss Mary Gail Triteh, both of Findlay, O., April 24.

Deaths

Augustus Peck Clarke, M.D., Harvard Medical School, 1862; of Cambridge, Mass.; third vice-president of the American Medical Association in 1895-1896 and chairman of the Section on Dietetics in 1897; professor of gynecology and abdominal surgery from 1893 to 1900 and dean of the College of Physicians and Surgeons, Boston, from 1894 to 1900, died at his home in Cambridge, Mass., April 22, aged 78. Immediately on his graduation, Dr. Clarke entered the military service as surgeon of the Sixth New York Volunteer Infantry and afterward served as chief surgeon of brigade and division, and was brevetted lieutenant-colonel for conspicuous courage and fidelity. He was a member and councilor of the Massachusetts Medical Society; a member of the American Academy of Medicine and the American Association of Obstetricians and Gynecologists; was president in 1891-1892 of the Gynecological Society of Boston and honorary president of the Section on Gynecology at the Twelfth International Medical Congress. He was one of the founders of the Cambridge Society for Medical Improvements and served as a member of the common council for four years.

James Brickell Murfree, M.D. Jefferson Medical College, 1869; a member of the American Medical Association; professor of principles and practice of surgery in the University of the South, Sewanee; local surgeon at Murfreesboro for the Nashville, Chattanooga and St. Louis Railway; formerly president of the Tennessee State Medical Association; Middle Tennessee Medical Association; Rutherford County Medical Society; Tri-State Medical Society of Tennessee, Alabama and Georgia, and Southern Surgical and Gynecological Association; for four years a surgeon in the Confederate service during the Civil War; died at his home, April 24, from nephritis, aged 76.

Francis Bacon, M.D. Yale University, New Haven, Conn., 1853; who did good service during the yellow fever outbreak in Galveston in 1852; served as surgeon of the Second Connecticut Volunteer Infantry and medical director of the Army of the Potomac and Department of the Gulf during the Civil War; professor of surgery in his alma mater until 1887 and since 1890 lecturer on medical jurisprudence; eminent as a surgeon and alienist; died at his home in New Haven, April 26, from senile debility, aged 80.

Lindsey T. Lowder, M.D. Medical College of Indiana, Indianapolis, 1874; formerly a member of the American Medical Association and president of the Monroe County (Ind.) Medical Society; a trustee of the Central College of Physicians of Indianapolis; a veteran of the Civil War; formerly local surgeon of the Monon System at Bloomington; died at his home in that city, April 20, from cerebral hemorrhage, aged 65.

Franklin K. Cosgrove, M.D. Medical College of Ohio, Cincinnati, 1849; a veteran of both the Mexican and Civil wars, and until his retirement a practitioner of Maysville, Ind.; died at the home of his son near North Vernon, Ind., April 12, from senile debility, aged 85.

Edwin Rosenthal, M.D. Jefferson Medical College, 1880; a member of the American Medical Association and Mississippi Valley Medical Association and prominent as a specialist on diseases of children; physician in chief to Mount Sinai Hospital, Philadelphia; corresponding secretary and director of the Pennsylvania Hospital for Contagious Diseases; died at his home, April 21, from cerebral hemorrhage, aged 53.

Daniel McLaren Miller, M.D. College of Physicians and Surgeons, New York City, 1856; a member of the American Medical Association and International Association of Railway Surgeons; surgeon of the Twenty-Eighth Wisconsin Volunteer Infantry during the Civil War; local surgeon of the St. Paul System at Oconomowoc, Wis.; died at his home in that city, April 25, aged 75.

Thomas P. Shields, M.D. University of Pennsylvania, Philadelphia, 1846; surgeon in the Confederate service during the Civil War and after its close a practitioner of Watkins, Ohio; formerly a member and once president of the Ohio Live Stock Commission; died at his home near Watkins, April 10, from senile debility, aged 86.

Charles W. Nichols, M.D. Albany (N. Y.) Medical College, 1889; a member of the American Medical Association; a veteran of the Civil War; for several years health officer of Fairfield, N. Y., and physician of Herkimer County; died at his home in Whitesboro, April 23, from cerebral hemorrhage, aged 62.

Hermann Westphal, M.D. College of Physicians and Surgeons, Baltimore, 1898; formerly assistant city physician of Butte, Mont.; at one time physician on the Yakima Indian Reservation, Fort Simcoe; died suddenly in the Emergency Hospital, Butte, April 15, from pneumonia, aged 43.

John Neilson Beekman, M.D. College of Physicians and Surgeons, New York City, 1868; a member of the Medical Society of the State of New York; at one time a member of the staff of the New York Hospital; died at his home in that city, April 26, from heart disease, aged 68.

William Reider Mood, M.D. Vanderbilt University, Nashville, Tenn., 1888; a member of the American Medical Association; local surgeon of the Northwestern Railroad of South Carolina; died suddenly at his home in Summerton, S. C., April 21, from heart disease, aged 47.

Horace Preston Gilstrap, M.D. Kansas City (Mo.) Homeopathic Medical College, 1896; Kansas City (Mo.) Hahnemann Medical College, 1906; professor of surgery in the latter institution; died at his home in Kansas City, Mo., April 5, from heart disease, aged 42.

Milton Tiffany Reeder, M.D. Bellevue Hospital Medical College, 1880; a member of the Medical Society of the State of Pennsylvania; vice-president of the Millersville National Bank; died at his home in that place, April 24, from disease of the throat, aged 65.

Thomas Harris Stewart, M.D. University of Michigan, Ann Arbor, 1868; for forty-two years a practitioner of Churchill, Ohio; a member of the State Legislature from 1886 to 1890; died at the home of his daughter in Salem, Ohio, April 22, aged 71.

Arnatt Reading Gulick, M.D. Bellevue Hospital Medical College, 1888; formerly of New York City, but recently a practitioner of Perth Amboy, N. J.; died at St. Peter's Hospital, New Brunswick, N. J., April 25, from pneumonia, aged 47.

Horatio Nathaniel Greene, M.D. Jenner Medical College, 1905; of Chicago; died in the Washington Park Hospital in that city, April 11, from the effects of a knife wound of the throat, self-inflicted, it is believed with suicidal intent, aged 49.

Edgar Calhoun Addison, M.D. Medical College of the State of South Carolina, Charleston, 1904; died at his office in Fairfax, S. C., April 14, from the effects of gunshot wounds, self-inflicted, it is believed, with suicidal intent, while despondent, aged 29.

John Shreffler Kennelley, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; formerly a practitioner of Easton, Ill., but for the last two years a resident of Longmont, Colo.; died at his home in that place, April 23, from cancer, aged 58.

George H. Reynolds, M.D. Albany (N. Y.) Medical College, 1891; formerly a member of the American Medical Association and a practitioner of Delhi, N. Y.; died at his home in Niwot, Colo., March 21, from tuberculosis, aged 46.

James D. Marsh, M.D. Jefferson Medical College, 1882; died at his home in North Bethlehem, Pa., April 11, from cerebral hemorrhage, aged 59.

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Mary Irene Adams, M.D. New York Medical College and Hospital for Women, New York City, 1907; of New York City; died at the home of her parents in Pasadena, Cal., March 15, from pulmonary tuberculosis, aged 30.

William Amyr Fallas, M.D. University of Michigan, Ann Arbor, 1865; for twelve years a teacher in the public schools and later a practitioner of Coopersville and Horton, Mich.; died at his home in Horton, April 6, aged 69.

Samuel Josephus McCurry, M.D. Atlanta (Ga.) Medical College, 1881; a member of the Medical Association of Georgia and vice-president of the Calhoun County Medical Society; died at his home in Anniston, April 13.

Edward Morgan, M.D., University of Florida, Tallahassee and Jackson, 1884; a member of the Michigan State Medical Society; a veteran of the Civil War; died at his home in Manton, March 15, from paralysis, aged 70.

Hugh L. Blanton, M.D., University of Pennsylvania, Philadelphia, 1855; for many years a practitioner of Cumberland County, Va.; died at his home near Browns Church, Farmsville, Va., April 5, aged 79.

Jefferson Green Page, a practitioner since 1866 of West Tennessee and Doniphan, Mo.; died at the home of his son in Little Rock, Ark., February 23, from valvular heart disease, aged 75.

George T. Acers, M.D. Rush Medical College, 1870; a retired practitioner of Baker County, Ore.; died at his home near Halfway, Ore., February 26, from cerebral hemorrhage, aged 55.

Levi E. Horton, M.D., Eclectic Medical College of the City of New York, 1891; a veteran of the Civil War; died at his home in Avoca, N. Y., April 22, from heart disease, aged 67.

Robert H. Truesdale (license, Kansas, 1901); a practitioner of Pardee, Doniphan and Kirwin since 1862; died at a hospital in Downs, April 8, from disease of the kidney, aged about 70.

David L. McNees, M.D. Kansas City Hospital College of Medicine, Kansas City, Mo., 1885; of Memphis, Tenn.; died at the home of his daughter in that city, April 14, aged 57.

William Lord Kelsey, M.D. Jefferson Medical College, 1876; medical examiner of Old Saybrook, Conn.; died at his home in that place, April 12, from cerebral hemorrhage, aged 65.

Jacob Franklin Hudson, M.D., Western Reserve University, Cleveland, 1882; a member of the American Medical Association; died at his home in Canton, Ohio, April 24, aged 59.

James Harmer Casey, M.D., College of Physicians and Surgeons, New York City, 1855; formerly an oculist of Kansas City; died at his home in Liberty, Mo., April 16, aged 68.

Jay Jennings Snider, M.D., Bennett Medical College, Chicago, 1886; formerly of Salt Lake City; died at his old home in Dayton, Ohio, April 7, from cerebral hemorrhage, aged 48.

James L. Finley, M.D., University of Louisville, Ky., 1896; a member of the Illinois State Medical Society; died at his home in Collison, Ill., April 29, from typhoid, aged 45.

Harry N. Freiman, M.D. Illinois Medical College, Chicago, 1898; of Cambria, Cal.; was shot and killed in that place, April 11, during an altercation over a bill, aged 35.

William Hoskins, M.D. Medical College of Virginia, Richmond, 1898; formerly of Newport News, Va.; died at King and Queen Courthouse, Va., April 12, aged 38.

William Burr Hunkapillar, M.D. Vanderbilt University, Nashville, Tenn., 1892; died at his home in New Hope, Ala., April 14, from bronchopneumonia, aged 40.

Albert Woodside, M.D., Medical School, Brunswick, 1874; a member of the American Medical Association; died at his home in Rockland, Maine, April 6, aged 65.

J. Everett Luscombe, M.D. Boston University School of Medicine, 1885; of Fitchburg, Mass.; died recently and was buried at Fitchburg, April 12, aged 66.

T. R. Luter (license, Tenn., 1889); of Big Sandy; died in the Western Hospital for the Insane, Bolivar, Tenn., February 17, from senile debility, aged 74.

John W. Peck, M.D. Bellevue Hospital Medical College, 1865; of Amoret, Mo.; died at the home of his son in Kansas City, April 9, from nephritis, aged 70.

Richard H. Dixon, M.D. University of Pennsylvania, Philadelphia, 1851; died at his home in Cambridge, Md., April 15, from senile debility, aged 83.

Harriet Pierson Van Kirk, M.D., Eclectic Medical College of the City of New York, 1870; died at her home in Oakland, Cal., April 6, aged 83.

Royal McShea (license, Kansas, 1901); for thirty-five years a practitioner; died at his home in Chapman, April 7, aged 73.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PANTOPON DETOXICATED

A remarkable feat of pharmacologic exorcism has lately been performed in Germany on the recently introduced proprietary purified extract of opium called Pantopon, and the result is something like the play of Hamlet with Hamlet left out. Pantopon, we are told, is obtained from opium by expelling the dross and the impurity leaving a collection of the pure alkaloids in the form of hydrochlorids. Naturally as Pantopon contains 50 per cent. of morphin it has the disadvantages of morphin, although this fact seems to have been largely overlooked by its enthusiastic supporters. It was said that the presence of the other alkaloids of opium would somehow or other render Pantopon a harmless substance. H. Winternitz,[1] however, found that this was not true. In a case of tabetic crisis he found that the morphin in Pantopon produced the same dangerous depression of the respiration as morphin when it was not in Pantopon. Winternitz therefore determined to cast out the devil from Pantopon and make a new proprietary. Accordingly he got the manufacturers to demorphinize Pantopon.

Behold the mutilated somnifer became as mild as a summer morning! Pantopon minus morphin no longer disturbed the breathing and it could be given in doses fifty times as large as its parent, the original Pantopon. In these doses the new remedy seemed to be of benefit in a case of insomnia, which might have been expected, for codein at least was left. This tail end of Pantopon has already had its proprietary christening with the baptismal name "Opon," derived from Pantopon by cutting off the "pant." As with Pantopon we may soon expect to see medical literature enriched by a fresh crop of observations on this new and wonderful German product. We would suggest that the next appropriate step in the proprietary industry would be the removal of the codein from "opon," leaving a new remedy for which the name "pon" would readily occur.

MORE FRAUDS

ST. JAMES SOCIETY DRUG CURE

The St. James Society of New York City is one of those villainous concerns engaged in selling morphin to morphin habitués, under the guise of a "cure." Its method has been to send its poor dupes a series of bottles labeled 1 to 10, containing a mixture of morphin and alcohol. The Bureau of Chemistry of the Department of Agriculture, U. S. Government, recently declared two of the shipments made by this concern misbranded under the Food and Drugs Act in that the amount of morphin and alcohol found in the preparation was different from that stated on the label. The St. James Society pleaded guilty and was fined $25. [*Notice of Judgment No. 1291.*]

GAUVIN'S ANISEED SYRUP

J. A. Gauvin, Lowell, Mass., sells a baby-killer which bears the innocent name Aniseed Syrup. Some of the claims made for this product are:

"Is quite harmless."
"Preeminently a Children's Remedy."
"Containing nothing injurious to the health."
"Cures colic, dysentery, coughs and colds."

Samples of this stuff were analyzed by the Bureau of Chemistry and found to be a watery-alcoholic solution of morphin acetate sweetened with sugar and flavored with oil of anise. As a mixture of morphin and alcohol is not "harm-

1. Therap. Monatsh., March, 1911.

less" and may injure the health, and, as the amount of morphin was in excess of that given on the label, the stuff was declared misbranded. Gauvin pleaded guilty and was fined $150. [*Notice of Judgment No. 773.*]

BRANT'S SOOTHING BALM

This preparation was marketed by the J. W. Brant Co. of Albion, Mich. It was said to be:

"Good for Colic, Bowel Complaint, Weak Stomach, Painter's Colic, Cholera, Cramps, Dysentery, Neuralgia, Tooth- and Ear-Ache, Scalds, Bruises and Sprains."

For "rheumatism and neuralgia," it was to be applied externally; for "dyspepsia, sour stomach, internal pain, diarrhea, fever and ague," it was to be taken internally. It was also recommended for "Diphtheria or Canker" and was said to be good "for Colic in Horses."

This "soothing balm" was analyzed by the government chemists and found to consist of camphor and oleoresin of capsicum dissolved in alcohol and containing a trace of sassafras oil and water. The label declared the presence of 98 per cent. of alcohol, which was found to be incorrect. For this reason, and—the Supreme Court not having emasculated the act at the time this prosecution was instituted—also because the therapeutic claims were utterly false, the stuff was declared misbranded. The Brant concern pleaded *nolo contendere* and was fined $10. [*Notice of Judgment No. 777.*]

TILDEN'S FEBRISOL

The Tilden Company, New Lebanon, N. Y., some other of whose products have previously been the subject of comment in THE JOURNAL, put on the market the preparation Febrisol. It was sold as an "Analgesic, Antalgic and Antipyretic." When analyzed by the Bureau of Chemistry, Febrisol was found to contain, besides certain unidentified drugs:

Alcohol	Acetphenetidin
Glycerin	Caffein
Acetanilid	Salol

The proportion of alcohol, acetphenetidin and acetanilid being misstated on the label, the preparation was declared misbranded. The company, through S. J. Tilden, its president, pleaded guilty and was fined $150. [*Notice of Judgment No. 780.*]

Correspondence

Psychology in Medical Schools

To the Editor:—A recent letter of Professor Henderson (THE JOURNAL, April 20, 1912, p. 1219) bearing on the matter of psychology as preparation for the study of medicine, and containing also a reference to the age of students entering schools of medicine, moves me to make a statement of facts that do not seem to be generally known. Let it be granted that the study of psychology would be an excellent training and preparation for the student of medicine. It will be conceded, however, that this study of psychology should consist in the study of scientific or experimental psychology, not of metaphysical psychology, such as was pursued by William James during the later years of his life. It matters not whether the point of view be that of psychophysics or of modern experimental psychology resting on a biologic basis, scientific psychology it must be, not metaphysical psychology. A few years ago, when the prerequisites for the study of medicine were being arranged in the University of California, I investigated the courses in the departments of psychology in American colleges and universities, and found that in scarcely any college and in but few of the universities were such scientific or experimental courses in psychology to be obtained. Some of our universities are well equipped, to be sure; but in many colleges the only equipment in the laboratory of psychology is a sink and a clock. If the schools of medicine were to demand such a course in scientific psychology of their entering students, the students and the colleges would be placed in a plerplexing quandary. Years ago when the Johns Hopkins University first made the demand of a laboratory course in physics for entering students, many colleges were unable to give it. And the responsive efforts on the part of the colleges to meet this demand for laboratory physics was of great advantage to the colleges themselves. If a similar demand for a laboratory course in psychology on the part of the schools of medicine were to result in the general installation of such courses in American colleges, the result would be indeed a notable advancement in education.

Dr. Henderson states that the age of entrance to the study of medicine should not be over 20 years. For schools that require but two years of collegiate work, this is certainly true. But there is no reason why all students should not enter on the study of medicine at this age. In the reports of the recent Chicago meeting of the Association of Medical Colleges, the statement was made that, in many instances, the age of graduation was as late as 29 years, and the conclusion was apparently drawn that this was to be attributed to the collegiate requirements. Now this is unfounded. Any student who graduates from medicine later than 25 years has in some way postponed his education. The common schools all prepare students for admission to colleges and universities in twelve years. If a boy enters the public school at 6, he will enter the college at 18, enter the school of medicine at 20 and graduate at 24 years. The private schools prepare their students usually in ten years. But as the pupils of private schools often do not enter until 7, they enter the college at 17 and graduate from medicine at 23. Any student who does not make this schedule has been restrained for reasons of health or finances, or in some other way. The twelve-year course of the common schools is too long; all the work could be easily done in ten if the work were systematized and needless detail and repetition excised. But even as matters stand, any normally healthy boy can enter the college or university at 18, take the two years of collegiate work required now by many schools of medicine, and graduate from medicine at 24. Taking the full college course would postpone graduation in medicine only to the age of 26.

ALONZO ENGLEBERT TAYLOR, Philadelphia.

To the Editor:—Apropos of the little symposium on psychology in the medical schools published in THE JOURNAL, March 30, 1912, p. 909, it seems not improper to state that I gave a course in normal medical psychology to the seniors of Tufts Medical School in the college year, 1901-02, and continued it for seven years, when it was merged into the course in psychopathology given with Prof. Morton Prince.

That I fully agree with the remarks of Professor Yandell Henderson of Yale, in THE JOURNAL, April 20, 1912, p. 1219, would be made plain to any who glanced over my two articles on the subject, namely "Psychology and the Medical School," *Science*, new series, July 26, 1901, xiv, 343, and "Medical Psychology," *Med. Rec.*, New York, Jan. 30, 1909, lxxv, 5. Knowledge of the fundamentals of human psychology is certainly one of the crying needs of our present medical education. It has long seemed to me strange that the profession so slowly recognizes this obvious fact. Perhaps I may venture, even, to make a brief quotation from the latter essay on this overtimely topic:

"There are difficulties in teaching psychology to medical students which those who have tried it readily appreciate. Primarily, for one thing, the average student of this profession is an almost discouragingly practical, not to say mercenary, young person. He is very apt to have a yearning after little that has not a dollar attached to its *terminus ad quem*, if not more immediately concerned. . . . Another difficulty of successfully teaching this science to medical students is their often almost materialistic point of view. This forms at the outset a prejudice-barrier against all science that involves anything in any degree or sense allied to metaphysics that opprobrious and hateful delusion of the unbalanced intellect, except to those who know something about it. . . .

"With all these difficulties, easily overcome by adequate instruction, the subject of medical psychology is a relatively simple science solely descriptive of easily observable facts. There need be nothing more obscure in descriptive psychology, whether medical or academic, than there is in any adequate discussion of the complexities of the marvel man. Owing to

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the nature of its subject-matter (immediate experience) there need not be used even the technical terms that are so great a bar at first to many of our sciences. There is little to be described outside the conscious experience, at one time or another, of the average intelligent man or woman. . . .

The natural leaders of public opinion in this general respect, medical schools and medical education, are just at present not a little behind the common average knowledge of the wide-awake community. The somewhat hackneyed 'average man' (of course, in reality there is no such) recognizes the far-pervading force of mental events and realizes the influence of that obvious progress in the spirit of mental science that is in his environment. If the particular 'mental science' that influences him oftentimes is on the outer margin of charlatanry, surely it is not his fault. All the more on this account, indeed, is it the business of the medical school to show him the rightful psychology and its tremendous moment in the care of most diseases, not less than in the conduct of his daily life."

GEORGE V. N. DEARBORN, Boston.

Danger to the Public from Praise of Caffein

To the Editor:—I read with some interest your editorial in the issue of March 16, reviewing the experiments of Dr. H. L. Hollingworth and of Dr. C. H. Wood, Jr., on the influence of caffein on the human system. This editorial appeared just at the time when I was retiring from my position in the Department of Agriculture, and I did not have the opportunity, at the time, to give it the attention which it merited.

Since the publication of this editorial I have read an editorial in the *Western Druggist* for April, 1912, in which reference is made to the article above noted. In speaking of the many blunders and other offenses of which I was guilty during my official career, the *Western Druggist* says:

"As an example of these blunders might be mentioned the suit of the government instigated by Dr. Wiley against the Coca-Cola Company to prohibit the use of caffein in the product of the company. The government was defeated in this suit, which cost the country thousands of dollars, and now comes THE JOURNAL of the American Medical Association, in an issue almost coincident with the resignation of Dr. Wiley, with an editorial extolling the value of caffein in its influence on mental and motor efficiency and on the circulation."

In closing your editorial you say:

"It is gratifying to have the effects on the human system of a drug like caffein so investigated by rigorous scientific tests at the hands of capable investigators; only in this way will there be provided an adequate basis for correct conclusions as to the possible dangers of the use of caffein-containing beverages."

For my part, believing as I do, in the eternal principles of energy, and that you cannot get something for nothing, I am unable to see how the stimulation produced by a drug like caffein can secure any energy except at a corresponding expense, and hence when I read of such tremendous increases of energy and work, coupled with the statement that no depressing effects follow, I either must give up my belief in the fundamental principles of science or else look elsewhere for an explanation of the conclusions. Fatigue is the signal of danger showing the need of rest and recreation. Caffein extinguishes the red light but does not close the switch.

In looking elsewhere, in the two instances which you have cited, I happen to have discovered that both series of experiments to which reference was made in your editorial were conducted at the instigation of and paid for by the funds of the Coca-Cola Company of Atlanta, Ga. Dr. H. C. Wood, Jr., was one of the witnesses at the trial, and an abstract of his testimony is found in the notice of judgment now in type and soon to be issued by the Department of Agriculture. Dr. Hollingworth was employed when a professor in the Columbia University had refused the offer of the Coca-Cola Company. Incidentally, Dr. Hollingworth is not a professor and is not connected with Columbia University; he is an instructor in Barnard College which while educationally a part of Columbia University is financially independent of it. In my opinion, the investigations made and paid for by interested parties, for the purposes of establishing a business for gain, cannot escape a taint which must pervade, even if unconsciously, the whole scope of the work.

About the time of the appearance of these reports, the first of the papers of Dr. Salant was published by the Bureau of Chemistry, Department of Agriculture, as Bulletin 148, on "The Toxicity of Caffein." That caffein is a lethal poison in not very large doses is thoroughly established by Dr. Salant's work on rabbits, guinea-pigs, cats and dogs. The evil effects of extensive drinking of coffee and tea are well known to all members of the medical profession. That caffein should be extracted from its natural belongings and placed in other foods or beverages where its presence is not known, and thus given to unsuspecting men, women and children, is an abuse which should be corrected by public indignation and the rigid arm of the law.

While no objection can be made to a study of the summary of experiments of this kind, care should be exercised that nothing be said which could possibly be used to support, to extend, or to justify such a crying abuse as that represented in Coca-Cola itself. It is also important that the readers of the results of scientific investigations should know why, and under what auspices, they were undertaken. It is to be regretted that the words of THE JOURNAL of the American Medical Association will hereafter be utilized by periodicals like the *Western Druggist* and by advertisers like the Coca-Cola Company, to promote and extend the use of a most objectionable form of beverage. We may look now, in the next instalment of Coca-Cola literature, for the approving words of THE JOURNAL of the American Medical Association, extolling "The Value of Caffein in Its Influence on Mental and Motor Efficiency."

H. W. WILEY, Washington, D. C.
Director, Bureau of Foods, Sanitation and Health,
Good Housekeeping Magazine.

COMMENT: The work done by Hollingworth and Wood was reviewed in THE JOURNAL for two reasons: first, because the subject of caffein-containing preparations is of wide-spread interest and further, because the findings of Wood and Hollingworth differ from those generally accepted. Dr. Wiley's letter was the first intimation that we had that commercialism might have prompted the investigation. Had THE JOURNAL known the connection, editorial mention would have been made of it so that our readers could have been forewarned. That the work of Wood and Hollingworth was otherwise than honest, neither THE JOURNAL nor, we feel free to say, Dr. Wiley believes. Everyone must admit, however, that experiments performed at the behest and expense of commercial interests are likely to be biased in favor of whatever hypothesis the interests concerned desire to prove. In the interests of scientific truth, therefore, it is particularly desirable that all work dealing with controversial subjects shall be done under conditions that are beyond criticism and by men whose disinterestedness is beyond question. The closing clause of our editorial made it plain that the conclusions of Hollingworth and Wood were not in any sense endorsed, but that they were given as a presumably valuable contribution to the subject discussed.

Another Section Wanted

To the Editor:—Every additional meeting of the Association emphasizes the need of a section in which interested members may discuss the many questions arising daily in their employment of physical therapeutics. It is a well-known fact that the number of physicians employing high-frequency electric currents and other physical agencies is greatly on the increase, the first-mentioned modality giving clinical data of great value in the early stages of arteriosclerosis and allied affections; that new and important researches have been made in the electric generation of heat within the body, at predetermined points, by improvements in the d'Arsonval current; that new claims have been made for the reflex control of internal, local deviations from normal trophic conditions by vibration, etc., all of great interest, if confirmed, to the internist grappling daily with these very affections. Such

a section would be of peculiar interest at the present moment to general practitioners possessing apparatus supposed to give these currents, not to mention a less general interest in the surgical uses of electricity and the *x*-ray. Ample opportunity is given for these discussions in the national representative bodies abroad, the British Medical Association in particular having a section on electrotherapeutics alone.

In our own Association the subject is represented solely by the large exhibit of apparatus in the commercial annex. Are we to assume that the Association endorses this movement merely as a commercial venture of its members? Such, at least, is the appearance presented when the total lack of recognition in the scientific sessions is remembered. The natural result is that the inquiring physician buys the apparatus and goes home to quack it, with only the meager instructions of the commercial agent to guide him.

At the St. Louis meeting a petition for such a section signed by 150 members was presented to the House of Delegates, but the section was not created.

It is thought by some that these physical therapeutic subjects should go into the Section on Pharmacology and Therapeutics. On closely scrutinizing this position it will be found to be impracticable. The members interested in drug purity and therapy have a large subject before them, with much important work to be done, and are naturally not interested in other lines of research. A proof of this was the refusal of the officers of this section to list any physical papers for the Los Angeles meeting.

I would like all members wishing a new Section on the Physical Forces, and willing to register in and support such a Section, to address a postal card without delay, stating their wish and intentions in the matter, to me or to Dr. Gustavus Werber, 1353 Q Street, N. W., Washington, D. C.

G. BETTON MASSEY, 1831 Chestnut Street, Philadelphia.

Thoremedin

To the Editor:—After some consideration I would like to make a statement in regard to my advocacy of a new remedy, then entitled "Thorium Paste," which was criticized, as Thoremedin, in THE JOURNAL, March 9, 1912, pp. 706 and 716. I wish to acknowledge that I made a mistake in publishing my article in the *Medical Record*, April 22, 1911, without securing a fuller statement of the exact volumetric formula for the thorium paste.

I accepted the statement of Semerak, who brought it to me with strong letters of recommendation from dermatologists of repute in Europe, where, he said, it had been used successfully for seven years, and I have before me the original memorandum furnished, giving the same ingredients as now appear on the labels. In using "Thorium Paste" and reporting on it, I had no intention of advocating a secret nostrum, as I had been promised by Semerak that the exact formula would be published shortly. I accepted, as you have accepted in THE JOURNAL, April 13, p. 1121, the reason given by Squibb for not publishing it at the time.

I must disagree, however, with Dr. Pusey's opinion that because thorium is present in so small a quantity, the radioactive properties of the remedy were unimportant; for the long-continued adherence of the paste, one to two weeks, with repetition if need be, gives a prolonged, weak, radio-active effect which is better than the relatively short application of strong radium. I believe that the results which I and others have obtained demonstrate that the remedy which I then advocated, the exact formula of which now accompanies each package, is of more value than as a simple caustic. Just in what this efficiency resides is a matter for further scientific investigation.

That the combination is of value I have no doubt, as I have demonstrated its effect repeatedly in the presence of others; and though ignorant of the agent to which it should be attributed, I believe that I was doing the profession a service in giving my experience with it, while I regret that the manner in which it was presented was open to criticism. I must therefore, claim the same kindly judgment which you have given to Squibb, in your editorial referred to; whatever mistake I made it was "one of judgment and not of intent."

L. DUNCAN BULKLEY, New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

A CASE OF OVERDEVELOPMENT OF FETUS, WITH DELIVERY AT TEN MONTHS

To the Editor:—Mrs. A. E. S., aged 29, was the mother of four children, 12 to 3 years in age. Her previous labors were without instruments, the babies weighing from 10½ to 12½ pounds. She became pregnant in January, 1911, and expected confinement Oct. 15, 1911. Labor began November 16. After twenty-four hours of hard labor the head was engaged in the left occipito-anterior position. No progress being made for some time, I applied forceps and after two or three hours of hard work delivered the head, but, contrary to the rule, was unable to deliver the shoulders. Counsel and assistance which had been advised but refused by the husband was now called. Unable to deliver by force, we decapitated and with a blunt hook brought down the arms. It then required our combined strength to deliver the body part way. When the child's pelvis reached the superior strait it stuck again. Evisceration was begun, but I turned the body over, using traction at the same time. By this twisting the bony prominence of the pelvis was passed and the child delivered. The weight of the child, minus its blood and the bowel material expressed, was 18¼ pounds.

The mother was not infected, but the extreme pressure on the vaginal tissue caused extensive pressure necrosis, gangrene and sloughing, leaving her in a deplorable condition. She had a vesico-vaginal fistula and complete prolapse of the bladder and the urethra was destroyed up to the neck of the bladder. She is at present in a hospital for surgical treatment, where, by a series of operations, it is hoped to repair some of the damage.

I know that this is a very unusual case as to the size of the fetus (the weight is authentic), but I should like to hear through your columns from some obstetricians whether with such a history —of previous labors, far from a hospital—could any other method of delivery have given any better results or prevented the serious results that followed this delivery? Taking into consideration the fact that the head was delivered and the child's body drawn tightly into the birth canal, how shall the delivery be effected?

J. E. B., Wisconsin.

ANSWER.—Although stories of the birth of children weighing 12, 14 or 16 pounds are not uncommon among the laity, yet reliable reports of children weighing more than 11 pounds are very rare. Ahlfeld says that in Marburg for a period of ten years, the largest child born weighed 11¼ pounds.

As it is hardly to be expected that a weight given by a simple spring balance which might satisfy a fisherman could be incorporated into obstetric records, it is desirable that any report should be substantiated by witnesses and the method of weighing given in detail.

A number of cases of very large children weighing more than 11 pounds have been reported from time to time. In most or all of these cases, pregnancy has been considerably prolonged beyond the usual period of 280 days. In some instances, the parents were unusually large. These points should be noted in the reports of similar cases. Among the cases of large children is that reported by A. Martin of a child that weighed 7,470 grams (nearly 16½ pounds) without brains or blood. Perhaps the largest authentic weight (23¾ pounds) was reported by A. P. Beach, in the *Medical Record*, 1879. The child measured 30 inches in length. The circumference of the head was 19 inches, that of the breast 24 inches and that of the hips 27 inches. The mother was 7 feet 9 inches tall and the father 7 feet 7 inches. The child was born dead after forceps operation and some traction to deliver the shoulders and hips.

The proper management of these cases is, of course, a cesarean section, undertaken early and before serious and fruitless efforts at extraction with forceps or with other manipulation have been made. The difficulty, however, is in making the diagnosis. The cases are so rare that no one—not even a specialist—has an opportunity to see many cases. The size of the child is not suspected and therefore not correctly estimated. The same kind of a mistake is made in cases of fetal hydrocephalus. Everyone knows that the proper management of hydrocephalus is perforation, after which extraction is simple and should be attended with no mortality. As a matter of fact, the maternal mortality in fetal hydrocephalus is over 50 per cent. because the condition is not diagnosed and improper methods of extraction are employed.

The remedy is the general introduction of careful methods of examination. In every case of delay during labor it is of the greatest importance to determine the station of the presenting part. Is the head above the inlet, in the inlet or through the inlet? This must be determined by both external and internal examination. The most advanced part of a moldable head may be felt some distance below the inlet by the internal examination when the external examination shows the main part of the head still above the

superior strait. With such findings and in case of a prolonged pregnancy, we should always suspect a large child.

It should also be emphasized that forceps applied to the head not yet through the inlet constitutes a high forceps operation, one of the most difficult of obstetric operations, either with a large child in a normal pelvis or a normal child in a contracted pelvis. With a suspicion of disproportion between the head and the pelvis, no operation should be undertaken with the head in the inlet without careful examination and measurement, and, if necessary, consultation. Then, if an operation is decided on, it should be remembered that the forceps operation is not the only one to be considered. Often a high-forceps operation is more dangerous to both mother and child than a cesarean section or a hebosteotomy. With such a plan of careful study and examination of cases we should not hear the sad and discouraging reports that after two or three hours of hard work with forceps the head was delivered.

In any mutilating operation, one should from the beginning always avoid injury to the mother as much as possible. With strong grasping forceps and large strong scissors and with the Braun hook the child should be cut or twisted into pieces that are extracted without tearing the mother. A wire saw like that used in hebosteotomy might sometimes be of value in removing a shoulder or thigh.

JOHN HERR MUSSER

To the Editor:—The following beautiful poem on Dr. J. H. Musser, by Dr. R. H. G. Osborne, of Morrisville, Pa., appeared in the May number of the *Bucks County Medical Monthly*. I should like to see it in THE JOURNAL. J. B. CARRELL, Hatboro, Pa.

REQUIESCIT

Another warrior sinks to rest and folds his weary hands to sleep;
The deeds that he hath done attest how pure his motives were and deep.
Not his the pomp of sword and drum, or bugle pealing notes of strife,
For though he strove to overcome, he sought not death to bring, but life.

He rests at last, yet not as one whose toil for selfish ends is o'er;
He passes like the setting sun, in farther regions to explore;
He rests indeed, yet not with grief should we his hallow'd bier surround.
He falls not as the falling leaf, but as the seed in mellow ground.

We yield him Nature's tear and sigh, but grief before our faith recedes;
The true physician does not die, he lives in comrades' hearts and deeds;
His dauntless soul no fears appal, he knows how frail is human breath;
So, one by one her warriors fall, yet Life is victor over Death.

FUCHSIN

To the Editor:—1. According to an article in THE JOURNAL (April 20, p. 1174), the acetate of fuchsin is a germicide, while the sulphate and the chlorid of fuchsin are inert. As the acetate, chlorid or sulphate radicals in themselves have no germicidal value, I do not understand why fuchsin in combination with an acetate radical should behave differently from fuchsin in combination with the chlorid or sulphate radical. Can you explain?

2. Also please explain why the author refers to fuchsin acetate as being basic while fuchsin chlorid and sulphate are said to be acid, when the formulas given show all three to be neutral.

P. C. R.

ANSWER.—1. The acetate, as the salt of a very weak acid, acetic acid, is decomposed by water (hydrolysis) to a greater extent than the chlorid or sulphate, which are probably decomposed only very slightly. We have a similar behavior in sodium acetate, which is decomposed by water into sodium hydroxid and acetic acid and reacts alkaline to an indicator like litmus or methyl orange, while sodium chlorid is decomposed only in faintest traces and reacts neutral. Sodium sulphate is decomposed slightly and reacts very faintly alkaline to neutral litmus. It may be, but is not likely, that the fact that the acetate of fuchsin is more soluble than the chlorid and sulphate has something to do with its germicidal power, since the author of the paper in question speaks of the difficulty of preventing precipitation. The difference in the degree of hydrolysis (decomposition by water) of the acetate versus the chlorid, and the fact that the acetate is a much stronger germicide than the chlorid suggests clearly that the *germicidal power is due to the product of hydrolysis*, namely, the free base of fuchsin. Cases are often noted in which the reaction of a salt is due to its products of hydrolysis. For instance, sodium acetate solution will saponify fats and other esters by virtue of the sodium hydroxid formed in hydrolysis, whereas sodium chlorid and sulphate have no such effect.

Just why the product of hydrolysis, the free base of fuchsin, should be germicidal, while the salts are not, is a different question and a very interesting one. The germicidal power might be due to the fact that the free base is an anilin. Of theoretic interest, and given with the utmost reserve, is the following suggestion: The free base is known to be unstable and to go over by a molecular change into a colorless derivative (a carbinol) of the same composition as the colored base, but of a different molecular structure. Acids convert the carbinol back into the colored base. This would indicate a continual change of structure of molecules in a solution of the acetate and these changes would involve the moving of electrons from position to position, and it is possible that it is this movement of electrons and the resulting forces that form the ultimate cause of the germicidal power. In other instances we find that similar changes of structure involve radical changes, such as color itself, fluorescence, etc.

2. Fuchsin acetate probably reacts basic, the base fuchsin being a stronger base than acetic acid is an acid. Sodium acetate, as stated above, also reacts alkaline for the same reason. The chlorid and sulphate probably react slightly acid, the acid produced by hydrolysis being stronger than the base, as is the case also for ammonium chlorid.

Miscellany

The Importance of a Well-Considered Prognosis.—In the management of patients the prognosis, although it is beset with many pitfalls for even the experienced physician, is of no small importance. Dr. T. Fred. Gardner (*Brit. Med. Jour.*, Feb. 10, 1912, p. 285) says that medical men hold here an enormous power for good or ill to their patients, and that it is not a matter of indifference how that prognosis is given. "Of course," he says, "we must give an honest opinion, but how that honest opinion is given, matters a very great deal." He is led to this observation by the many errors made by himself, and by his colleagues coming within his knowledge, some of which were serious, some amusing, but in all of which the outcome was far different from that predicted by the medical attendant. Even the most trivial things may have a profound effect on patients, and though one should be optimistic when possible, one should always be careful and conservative. "Beware," he says, "the unguarded word! Beware the unguarded hesitation! Beware even the unconscious sigh!" He relates an instance in which the physician in examining the chest of a woman patient would listen to the breathing, then unconsciously give a little sigh. Though the prognosis in this case was favorable, the patient afterward told the physician that every time she heard that sigh, she said to herself: "Another bit of my lung gone!" Gardner warns physicians to be exceedingly careful in pronouncing a patient to be afflicted with some fearsome or fearful disease, or in declaring that they have only a few days or weeks to live. He believes that one should be exceedingly conservative in predicting the length of time which any patient may live, for most physicians have seen patients in the most desperate condition, with apparently only a few days or weeks to live, not only sometimes entirely recover but even live for years, in almost the same desperate condition, to plague their medical advisers on account of their mistakes in judgment. Even the optimist, with the best intentions in the world, may unwittingly embarrass himself by his most cheerful predictions. An optimistic physician told his 80-year old patient that he could see no reason why she should not live to be 90. This prediction, strangely enough, seemed to depress the patient, and when asked whether she was not glad the physician had made such a cheerful prediction, she said: "No, he limited me." But notwithstanding the possibility of making mistakes, Gardner believes that when honestly possible, optimism in prognosis is not only the privilege of the physician, but his bounden duty. Often it will turn the scale of

the flagging forces and put the patient on the road to recovery. Gardner says that he could quote case after case in which a hopeful prognosis has done more than all the drugs, vaccines, serums, etc., in curing the patient. He says: "While we honestly can, let us add to our therapeutic armory the suggestion of hope. If we cannot give hope of cure, let us give hope of relief; if we cannot give relief, let us give hope of partial relief; if we cannot give hope of partial relief, let us have some philosophy to offer to our wounded and sorely stricken patients, that even then we may administer some medicine to the mind." While none of us is infallible—"not even," says Gardner, "the youngest of us"—and while we are and should be inclined to be more conservative about making positive prognoses, as we gain in years and experience, yet we should all pause before we destroy hope.

The County Health Officer.—In his report to the Rockefeller Commission for the Eradication of Hookworm Disease, Dr. Charles Wardell Stiles has this to say regarding the county health officer: "During the twenty years that I have been engaged on a study of practical health problems in this country, the fact has forced itself on me that the county health officer is theoretically the most important and practically the weakest point in the entire public-health organization of the United States. Some of our counties have excellent county health officers, but in the vast majority of cases the men are underpaid for the work, and they therefore do not perform their duties properly; for the support of their families they are dependent on their private practice among the people over whom they are called on to exercise police powers, and as a result these powers are not exercised; too often the position goes to the 'lowest bidder,' and too often it goes to a political appointee, technically totally unfitted for the work. To use a comparison, the county health officer may be compared with the sheriff or the local police, while the federal health authorities may be compared with the U. S. Army. Today there is a tendency to demand that the federal public-health service be increased. Much as I approve of strengthening the federal service, as a member of that service I feel convinced that the average citizen does not fully appreciate the fact that this service cannot possibly make up for the present inefficiencies of the mass of our county health officers. We might just as logically expect that an increase in the standing army of the United States would obviate the necessity of having county sheriffs or local police as to expect the federal public health service to obviate the necessity of appointing and equipping proper local and county health officers. Speaking from an experience of twenty years' work in federal service, with a considerable portion of this time spent in actual field work in many different states, I cannot escape the conclusion that the most important single problem in public health organization in our country is at present centered in the question of the county and local health officer rather than in Washington, and I wish to add all the emphasis in my power to that part of the report of the administrative secretary which deals with this point. If the counties in our Gulf-Atlantic states had active, properly trained county health officers, this commission would not be able to find any work there to enable it to carry out its trust, and I know of no way by which we can more quickly finish our work, and thereby render ourselves useless, than by encouraging the development of a thoroughly efficient system of county health officers."

The Dairy Lunch.—The *Boston Medical and Surgical Journal* champions the dairy lunch as a triumph of American genius, calling it educational, democratic and communal in the right sense. "Wise laws compel it to be sanitary. Public opinion makes it sensible and respectable." It is "a typical product of American genius for saving labor and waste in the feeding of busy thousands." It may, indeed, conduce to hasty habits of eating, still, it is said, speed in eating really becomes a factor of importance, provided it does not interfere with the quality and mastication of food, for the time saved by avoiding unnecessary delay in the serving of food may often profitably be employed otherwise. The typical dairy lunch of the best sort is not, as its dyspeptic and gouty critics would aver, a place for the purveying of pie and doughnuts and other indigestible things. It is clean, airy, orderly. Foods of the simple nutritious sort are furnished without unnecessary frills, which afford all of the essentials of nutrition, caloric and hygienic, without any of the unnecessary appurtenances which blind convention so often associates with the taking of food. The dairy lunch is not only an economic success, it is a force for education in hygiene and in discipline. Those who patronize it get only what is good for them and learn unconsciously how to select it. It is a place for those who eat to secure their greatest efficiency—for those who want the best and wish to pay what it is worth, but who do not intend to pay for mere form.

Sanitary Rules for Camps.—The following brief rules for the sanitary care of construction camps have been formulated by Jerome Cochran, C. E. (*Cornell Civil Engineer*, February, 1912). With slight modification they will apply to summer camps or cottage communities, and might profitably be followed during the coming vacation season:

1. All open windows must be carefully screened to preclude flies and mosquitoes. 2. No food whatever shall stand about uncovered except at mealtime. 3. Water from brooks or creeks must not be used for drinking or cooking purposes. 4. All kitchen waste, solid and liquid, must be put in tightly covered tins or in a garbage hole, and every evening covered with earth. 5. The dry-closet pails must be emptied frequently and the contents thoroughly covered with earth or otherwise satisfactorily disposed of and not allowed to become a nuisance. 6. The camp closets must be used exclusively; the "method of Moses" will not be tolerated about the camp. 7. No paper or rubbish shall be scattered about the camp; such material must be collected, and burned or buried. 8. Mosquito-pools in or about the camp shall be treated with kerosene or other oil at least every ten days and oftener if found necessary. 9. Weeds and grass must be kept short around the camp. 10. All dead animals found around the camp must be immediately buried or otherwise disposed of. 11. Proper precautions shall be taken against infectious diseases. 12. All other sanitary rules shall be strictly enforced as may be ordered by the state board of health.

The Standardization of the Practices of State and Municipal Hygiene.—One of the important functions of the Fifteenth International Congress on Hygiene and Demography next fall will be the standardization of the practices of state and municipal hygiene. This is clearly foreshadowed by the topics which have been outlined for Section VI of the program dealing with this subject. In this section, during sessions lasting the entire week of the congress, an opportunity will be afforded for the exposition by technicians of international reputation of the most recent practice on those extremely important phases of municipal hygiene which deal with the sanitation of habitations, streets, water-supplies, disposal of sewage and waste and the legislative and administrative functions of boards of health. The officers of the Section on State and Municipal Hygiene are: president, Dr. Frank F. Wesbrook, professor of pathology and bacteriology, University of Minnesota, Minneapolis; vice-presidents, Dr. John N. Hurty, secretary, State Board of Health of Indiana and Dr. Charles D. Chapin, superintendent of health, Providence, R. I.; secretaries, Dr. Herbert D. Pease, New York, and Dr. Marshall L. Price, secretary, State Board of Health of Maryland.

Specialism in Medicine.—Many a man has so centered his study, his thought, his practice and his interest in one organ as practically to forget that this is only one of many organs in the body, more or less interdependent and each demanding consideration. The result in technical knowledge of the different organs as derived from specialism has been great, but the natural effect on the special worker is narrowing. Unless the specialist is careful he becomes nothing but a tool in the hands of the general medical adviser, whose vision is broad enough to study the human body as a whole, and to select from the collection of tools at his command the proper one for the cure of his patient.—E. B. Cragin in *Med. Record.*

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

FURTHER DEBATE ON THE OWEN BILL

For the purpose of keeping our readers informed on the progress of the Owen bill, the debate in the Senate on May 2 is given herewith complete, with the exception of a portion of Senator Owen's speech relating to matters familiar to our readers.

Mr. Culberson: Mr. President, as chairman of the Committee on Public Health and National Quarantine I have received a number of protests from people of the state of Oklahoma against the passage of what is known as the Owen public health bill, with a special request that I present them to the Senate. I do so, asking the substance of the memorials be printed in the *Record*, and not copying the names, of course, but that a note of the signatures may be made.

The Vice President: Without objection, that procedure will be had.

The memorials presented by Mr. Culberson are as follows:

From 84 citizens of Boley, 22 citizens of Oklahoma City, 5 citizens of Yale, 58 citizens of Chandler, 57 citizens of Oklahoma City, 40 citizens of South Coffeyville, 43 citizens of Boley, 15 citizens of Oklahoma City, 34 citizens of Norman, 28 citizens of Kiefer, 15 citizens of Oklahoma City, 12 citizens of Higley, 10 citizens of Okmulgee, 32 citizens of Morrison, 40 citizens of Oklahoma City, 112 citizens of Jennings, 23 citizens of Purcell, 43 citizens of Chelsea, 30 citizens of Enid, 14 citizens of Carmen, 21 citizens of Cherokee, 14 citizens of Oklahoma City, 28 citizens of Amber, 116 citizens of Lawton, 41 citizens of Lindsay, 29 citizens of Oklahoma City, 67 citizens of Stillwater, 96 citizens of Lawton, 46 citizens of Bartlesville, 35 citizens of Chickasha, 23 citizens of Lawton, 64 citizens of Oklahoma City, 41 citizens of Chickasha, 26 citizens of Enid, 13 citizens of Oklahoma City, 55 citizens of Poteau, 40 citizens of Oklahoma City, 22 citizens of El Reno, 14 citizens of Oklahoma City, 24 citizens of Bartlesville, 40 citizens of Ardmore, 7 citizens of Oklahoma City, 43 citizens of Ardmore, 15 citizens of Oklahoma City, 11 citizens of Perry, 61 citizens of Oklahoma City, 43 citizens of Wagoner, 13 citizens of Oklahoma City, 62 citizens of Chickasha, 32 citizens of Oklahoma City, 29 citizens of Wagoner, 43 citizens of Oklahoma City, 39 citizens of Chickasha, 16 citizens of Chandler, 20 citizens of Chickasha, 37 citizens of Oklahoma City, 12 citizens of Carmen, 39 citizens of Oklahoma City, 52 citizens of Guthrie, 36 citizens of Oklahoma City, 28 citizens of Woodward, 11 citizens of Oklahoma City, 27 citizens of Pawhuska, 8 citizens of Oklahoma City, 30 citizens of Guthrie, 5 citizens of Oklahoma City, 17 citizens of Walter, 21 citizens of Oklahoma City, 30 citizens of Tulsa, 13 citizens of Oklahoma City, 45 citizens of Wagoner, 23 citizens of Oklahoma City, 46 citizens of Stillwater, 8 citizens of Oklahoma City, 57 citizens of Stillwater, 52 citizens of Oklahoma City, 61 citizens of Ames, 32 citizens of Oklahoma City, 5 citizens of Britton, 9 citizens of Oklahoma City, 9 citizens of Claremore, 32 citizens of Oklahoma City, 90 citizens of Chandler, 14 citizens of Oklahoma City, 6 citizens of Britton, 4 citizens of Oklahoma City, 21 citizens of Ardmore, 23 citizens of Oklahoma City, 44 citizens of Shawnee, 13 citizens of Oklahoma City, 35 citizens of Stroud, 22 citizens of Oklahoma City, 43 citizens of Quapaw, 41 citizens of Oklahoma City, 31 citizens of Pond Creek, 31 citizens of Oklahoma City, 14 citizens of Pawnee, 48 citizens of Oklahoma City, 23 citizens of Orlando, 43 citizens of Oklahoma City, 26 citizens of Muskogee, 33 citizens of Oklahoma City, 2 citizens of Pawnee, 20 citizens of Oklahoma City, 28 citizens of Seminole, 49 citizens of Oklahoma City, 45 citizens of Shawnee, 43 citizens of Oklahoma City, 49 citizens of Shawnee, 45 citizens of Oklahoma City, 39 citizens of Lawton, 44 citizens of Oklahoma City, 18 citizens of Mangum, 37 citizens of Oklahoma City, 71 citizens of Miami, 102 citizens of Muskogee, 33 citizens of Oklahoma City, 86 citizens of Shawnee, 16 citizens of Oklahoma City, 18 citizens of Fairview, 89 citizens of Oklahoma City, 41 citizens of Fairfax, 33 citizens of Oklahoma City, 53 citizens of Glencoe, 17 citizens of Oklahoma City, 43 citizens of Guthrie, 11 citizens of Oklahoma City, 45 citizens of Guthrie, 17 citizens of Oklahoma City, 58 citizens of Guthrie, 8 citizens of Oklahoma City, 44 citizens of Guthrie, 7 citizens of Oklahoma City, 86 citizens of Idabel, 17 citizens of Oklahoma City, 131 citizens of Lawton, 58 citizens of Oklahoma City, 49 citizens of Enid, 44 citizens of Oklahoma City, 1 citizen of Edmond, 16 citizens of Oklahoma City, 59 citizens of Davenport, 37 citizens of Oklahoma, 25 citizens of Davenport, 22 citizens of Oklahoma City, 37 citizens of Cushing, 19 citizens of Oklahoma City, 40 citizens of Cushing, 36 citizens of Oklahoma City, 37 citizens of Collinsville, and 20 citizens of Oklahoma City, all remonstrating against the passage of the bill (S. 1) to establish a department of health and for other purposes.

Mr. Owen: Mr. President, I wish to put in the *Record* with regard to these alleged protests against Senate bill No. 1, establishing a public health service, my comment that the protest is based on the false theory that the health service of the United States would be "admittedly under the control of one school of medicine" and "ultimately abridge the right of the individual citizen to choose the practitioner of his choice in times of illness."

That suggestion is not true. The bill expressly provides the contrary—that the health service shall have nothing to do with controlling the practice of medicine; that it shall not interfere with the right of the citizen to choose his own practitioner; that it shall not interfere with the practitioner of any school of medicine or of healing to practice his profession. That matter being confessedly in the control of the police powers of the state need not to have been negatived by the bill itself, but out of abundant caution and for the reason that that contention had been made the bill does provide that no interference shall be made with any citizen in choosing his practitioner or in practicing any method of healing.

The bill, in fact, does not enlarge the powers now existing in the Bureau of Public Health and Marine-Hospital Service and "Vital Statistics" and in the administration of the pure food and drugs act. These departments are merely brought together in an independent bureau, so as to coordinate their activities and to make more economical and more efficient their administration.

The obvious mechanical and artificial character of these protests I call attention to. The protest which I have in my hand came from Boley, Okla., a little village which I know very well. This protest, like all the others, is based on gross error and obvious misinformation.

The objection which I make is that this protest is based on the theory that it would interfere with the liberty of the citizen and of the practitioner above referred to and on the further assertion that such a bureau or department would not only be expensive, which is not true, but that it could in nowise do more effective work than the present bureau, which is also not true.

The statement that there is no public demand for such legislation is also not true, because the public demand has been so great that it represents practically the opinion of a very great majority of the people of the United States, made obvious not only by resolutions of societies devoted to the public health, by the action taken by the various great insurance companies of this country which are concerned in prolonging the life of the policy holders, and of the various societies devoted to the cure and prevention of illness throughout the United States, but it is also made obvious by the declarations of the various great political parties, including the Republican party in its national platform and the Democratic party in its national platform.

Senator Owen then reviewed the position of political parties, scientific bodies, life insurance companies and prominent individuals on this subject, and the enormous waste of life and money from preventable diseases. He continued:

This bill provides that the health service shall not interfere with any of the functions belonging exclusively to the states, nor permit anyone to enter the premises of private persons without the permission of the owner or occupant thereof, and shall have no power to regulate the practice of medicine or the practice of healing, or to interfere with the right of a citizen to employ the practitioner of his choice, or to make any discrimination in favor of or against any school of medicine or of healing.

The opposition which has been stirred up against the establishment of an independent health service has proceeded on the assumption that the health service would have the right under this bill to interfere with the citizen in employing the practitioner of his own choice or to interfere with the states in the regulation of the practice of medicine or the practice

of healing. The constitution offers abundant protection against these apprehended evils, and the bill permits nothing of the sort. It forbids it.

These protests do not represent the sentiment of the country. The opinion of the people on this question is set forth in Senate Document 637, Sixty-First Congress, second session, which contains over 200 pages of abstracts from resolutions of innumerable societies from the various states and from the opinions of leading public men, such as Bryan, Roosevelt, Taft, Cleveland, Gorgas, Wiley, and so forth.

The Senator from Washington [Mr. Jones] put into the *Record* some adverse telegrams, but the following telegram shows that these telegrams do not express the sentiment of the community:

SEATTLE, WASH., May 1, 1912.

Hon. ROBERT L. OWEN,
United States Senate, Washington, D. C.:

The trustees of the King County Medical Society sent the following telegram to Senator Jones: "Beg to remind you of letter of Dec. 28, 1911, from King County Medical Society, representing 330 physicians practicing non-sectarian medicine, requesting your support of the Owen bill. Your telegrams read in Senate recently do not express the sentiment of the community." We desire to thank you for your attitude on this great question of public health.

R. W. PERRY, R. J. O'HEA,
P. V. VON PHUL, J. B. MANNING,
J. C. MOORE, H. E. ALLEN,
Trustees King County Medical Society.

It cannot be said truly that there is no sentiment for this measure. Our country is the only one in the world that is so far behind in the protection of the health of the country by a proper health service.

I call the attention of the Senate to the fact that while the disaster on the *Titanic* was a terrific destruction of life, the loss by the *Titanic* of 1,700 persons which so shocked the world is actually less than the daily unnecessary loss in the United States of human life by preventable illness. Every day of the year over 1,700 people die by preventable diseases in this country, whose lives could be saved if we had an intelligent administration and if we took more pains to instruct the public in the well-known laws governing human life, which ought to be made as public as the bulletins on the care of our swine against disease.

The Rockefeller Sanitary Commission has been studying the question of hookworm all over the world, and has caused to be made a world-wide investigation into this disorder.

The treatment of this disease is comparatively recent.

Nine hundred millions of the sixteen hundred millions of people on the globe live in countries which are infected by this disorder.

In certain states of the Union, or in certain localities in certain states where a thorough survey has been made, the percentage of children affected by this disease has come as high as 90 per cent., covering the cases of rural children between the ages of 6 and 18.

The number of cases actually diagnosed by the commission itself has been very large, and this work has been done through the state boards of health, which have been taking great interest in the matter.

The number of cases treated last year was over 142,000. It is comparatively easy to cure it.

Within the last three months over 23,000 recorded cases have been treated by the state organization in eight states.

I remind the Senate that when I suggested, two years ago, the prevalence of this disorder in two particular states in the Union—which I need not mention—a Senator from each of those states undertook to deride and ridicule this statement on the floor of the Senate.

The cooperation of state authorities, local authorities, the press, and all classes of citizens of the states affected has become admirable.

I suggest to the Senator from California that it would not suffice to put a corps of Christian Science healers in the field to deal with the hookworm, although I do not object to their activities so long as the world has access to other methods of healing.

Mr. President, I do not wish to have this matter passed by without making a comment on this character of alleged protest, because these so-called protests are based on untruth, and the citizens of the country are being misled by statements which are not only false, but are instigated by the patent medicine trust and the enemies of the pure food and drug laws, who can easily excite those who are innocent of wrong purpose to oppose this bill on the absurd theory of "medical freedom."

I enter my protest against memorials based on statements and conclusions which are obviously untrue. The ordinary citizen signing these petitions does not know that these statements and conclusions are untrue, and therefore may be easily induced to sign the petitions. He has not the bill before him. He has not had the opportunity of studying this measure. He does not know the facts nor the great need for this measure.

I therefore think it proper to put on the record at the time of the delivery of these petitions my comment on them.

Mr. President, I think that Senate bill No. 1, against which these petitions are filed, is a matter of such grave national importance that it is the duty of the members of the Senate to examine that bill and to examine the testimony which has been submitted in connection with it. It has been printed in the form of Senate documents. They are available, and I hope the Senate will, before acting on the matter, at least give it the patient and conscientious consideration which a measure of this great importance deserves.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

Ninth Month—Fourth Weekly Meeting

CARCINOMA OF THE LIVER

PATHOLOGY

Types of carcinoma, microscopic diagnosis of each. Gross appearances, (a) single tumor, with secondary deposits about it, (b) "Farre's tubercles" secondary to primary lesion. Primary or secondary cancer. Association of cancer and cirrhosis.

SYMPTOMS AND DIAGNOSIS

SYMPTOMS: Variety and intensity of symptoms. Jaundice, pain, ascites, fever, cachexia, cerebral symptoms, metastases, the blood. Inspection, palpation, percussion.

DIAGNOSIS: Carcinoma of pylorus, of colon. Abscess, syphilis, benign tumors and hypertrophic cirrhosis of liver.

CIRRHOSIS OF THE LIVER[1]

ATROPHIC

ETIOLOGY: Alcoholism, age, sex, diet, acute infections, chronic diseases, cardiac and pulmonary lesions.

SYMPTOMS: Prodromal symptoms. Obstruction to portal circulation.[2] Gastro-intestinal disturbances, spleen, urine, ascites. Toxemic symptoms. Facies, "caput Medusæ." Inspection, palpation, percussion.

HYPERTROPHIC (HANOT)

ETIOLOGY: Sex, age, catarrhal jaundice, acute infections.

SYMPTOMS: Onset, digestive disturbances. Jaundice, fever, pain, hemorrhages. Physical examination. Terminations.

BILIARY

ETIOLOGY: Chronic obstruction to ducts.

SYMPTOMS: Symptoms of cholangeitis, jaundice, hepatic intermittent fever. Physical examination. Terminations.

Monthly Meeting

Diagnosis and Treatment of Acute Cholecystitis.
Diagnosis of Malignant Disease of the Liver and Biliary Tract.
The Clinical Significance of Jaundice.

1. Edwards: International Clinics, 1902, vol. ii, p. 92. Stockton: Univer. Penn. Med. Bulletin, February, 1904. Kelly: Am. Jour. Med. Sciences, December, 1905. Progressive Medicine, December, 1909.

2. Herrick: Jour. Exper. Medicine, January, 1907. Progressive Medicine, December, 1907.

The Public Service

JOURNAL Announcements, Knocks and Boosts, Books Received and changes in the Public Service will be found in the advertising section, commencing on the second page following reading matter.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARKANSAS: Regular, Little Rock, May 14. Sec., Dr. F. T. Murphy, Brinkley.

LOUISIANA: Regular, Tulane University, New Orleans, May 30 to June 1. Sec., Dr. A. B. Brown, 108 Baronne Street.

MASSACHUSETTS: State House, Boston, May 14-16. Sec., Dr. Edwin B. Harvey, State House.

MISSISSIPPI: State Capitol, Jackson, May 14. Sec., Dr. W. W. Smithson.

NEBRASKA: Senate Chamber, State House, Lincoln, May 22-23. Sec., Dr. C. P. Fail, Beatrice.

NEW YORK: May 14-17. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

WISCONSIN: Milwaukee, May 28-30. Sec., Dr. J. M. Beffel, 3200 Clybourn Street.

Montana April Report

Dr. Wm. C. Riddell, secretary of the Montana State Board of Medical Examiners, reports the written examination held at Helena, April 2-4, 1912. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 31 of whom 25 passed and 6 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Denver and Gross College of Medicine	(1910)	77.2
Rush Medical College	(1897) 85.3; (1910) 81.7; (1911)	81
Northwestern Univ. Medical School	(1906) 80.3; (1909)	84.3
Bennett Medical College	(1908) 85; (1911)	79.7
Medical College of Indiana	(1905)	81.1
Drake University	(1910)	79.4
Kansas Medical College	(1909)	77.8
University of Michigan, Department of Medicine and Surgery	(1882) 82.2; (1910) 76.5, 80.7; (1911) 83.	
University of Minnesota, College of Medicine and Surgery	(1905) 78.4; (1906) 78.4.	
Tufts College Medical School	(1901)	80.7
St. Louis College of Physicians and Surgeons	(1911)	75
University Medical College, Kansas City	(1910)	80.2
Columbia University, College of Physicians and Surgeons	(1909) 88.1; (1910) 84.8.	
University of Pittsburgh	(1911)	80
Marquette University, Milwaukee	(1911)	77.2
Aberdeen University, Scotland	(1908)	86.3
FAILED		
University of Iowa, College of Medicine	(1895)	68.5
Keokuk Medical College, College of Phys. and Surgs.	(1907)	70.7
University of Louisville	(1908)	67.3
Baltimore Medical College	(1903)	66.5
Michigan College of Medicine and Surgery	(1911)	64.2
Marquette University, Milwaukee	(1911)	72.9

Book Notices

GESAMMELTE WERKE VON ROBERT KOCH. Herausgegeben von Prof. Dr. J. Schwalbe, unter Mitwirkung von Prof. Dr. G. Gaffky und Prof. Dr. E. Pfuhl. Three Volumes. Paper. Price, 80 marks. Illustrations. Leipsic: Georg Thieme, 1912.

The collected works of Robert Koch come in three stately volumes, each containing about 700 pages. Nominally there are two volumes only, but the second volume is divided into two equal parts. The quality of the paper, the reproduction of the illustrations, many of which are in colors on plates at the end of the volumes, the arrangement of the material, and the mechanical execution are in every way fully worthy of the origin, contents and purpose of this publication. The frontispiece in Volume 1 shows Koch as he appeared in the last years of his life, and that in Volume 2 gives a view of his sepulcher in the Institute for Infectious Diseases in Berlin. The order of the contents is not strictly chronological with respect to publication or writing—several of the addresses and all of the special reports to official bodies of various kinds have not been published before—but rather so far as possible according to the topics considered. There is no general index but each volume has a separate table of contents. The general editorial supervision has been in the hands of Professor Schwalbe of Berlin, the editor of the *Deutsche medicinische Wochenschrift*, in the columns of which so many of Koch's epochal communications were published first. In the preface the editor explains that not a few of Koch's special reports still remain unpublished either because of their inaccessibility, being buried in archives in various places, or because the nature of the contents seemed to render publication inadvisable. A few of the principal biographic facts, and a brief and succinct sketch of Koch's work and character are given by Koch's former assistant and successor in the Institute for Infectious Diseases, Professor Gaffky, whose memorial address before the University of Berlin is republished. Koch's collected works fall into two distinct parts, (1) the published articles, addresses, etc., and (2) hitherto unpublished reports and recommendations to various official bodies.

The first part opens with Koch's inaugural address before the Academy of Sciences in Berlin, July 1, 1909, in which he outlines briefly the scope of bacteriology, its relations to other sciences, and the part he took in its development and in the development of our knowledge of infectious diseases, their prevention and treatment. This address fills four pages only, but considering the extent of the ground it covers and Koch's personal relations to the subjects with which it deals, it is remarkably appropriate and adequate, a brilliant model of clear, concise statement, and a most fitting introduction to what follows. He gives the credit of awakening in him the investigative spirit to Meiszner, his teacher in physiology. Now come the early publications while he was district physician in Wollstein, on the cause of anthrax, wound infections, photography of bacteria; and then the articles dealing with the methods of study of bacteria, including the introduction of solid mediums—"the corner-stone of bacteriology"—with disinfection, and other subjects; and finally, the publications on tuberculosis, only about seventeen in all, headed by the paper based on the statement before the Physiologic Society of Berlin, March 24, 1882, in which the first public announcement of the discovery of the tubercle bacillus was made. This concludes Volume 1. At the end are the plates, twenty-nine in all, with the illustrations for the articles on anthrax, photography of bacteria, wound infections and tuberculosis, all reproduced beautifully. Consider for a moment the significance attached to these illustrations, especially those concerning tuberculosis!

In Volume 2 we have first the articles, reports and discussions concerning Asiatic cholera (1883-1895); then lectures to military physicians on the prevention of pestilential diseases in war-time; and now follow reports, addresses, and scientific articles on malaria, on sleeping-sickness, on bubonic pest, rinderpest, surra, etc., based on the expeditions to Africa and elsewhere. While in Africa, Koch engaged in anthropologic studies also and these form the subject of an interesting lecture. His prize essay, while still a student, on the ganglion cells and nerves in the uterus, some other publications not dealing with infectious diseases, and a few speeches at various festivities in his honor are included. Nearly 400 pages are filled with hitherto unpublished reports and recommendations to governmental bodies, mostly in regard to methods of prevention of infectious diseases in man and animals, beginning with anthrax and ending with sleeping-sickness and discussion as to the ability of the white man to survive in the tropics; covered by reports of this kind and by discussions in commissions and bodies are the subjects of vaccination and new regulations in regard to it, drainage and water-supply, and a wide range of other topics. These reports contain much of high value to the practical sanitarian and they illustrate the great service rendered by Koch to his country by taking an active part in matters of practical concern within the field in which he was master.

This hurried summary of the contents of Koch's works serves to bring to mind once more the nature and extent of his activities. This is not the place to enter on an analytic discussion of Koch's work. To us of the present generation it seems that rarely, if ever, has it been given to a man to achieve so many results of such far-reaching benefit to humanity and of such importance to the progress of medical science as was given to him. Witness the extent to which the

struggle against infectious diseases the world over is being conducted along lines first drawn by Koch! The results of his investigations and discoveries form an integral part of the knowledge of every physician and determine in large measure many of his daily actions. Koch's writings consequently are to be classed with the choicest treasures of medical literature. To republish them in collected form was a duty to medicine and to Koch. It has been done well, and these volumes are his most impressive and most durable monument. They will be an ever-fruitful scource of inspiration and guidance to the true student and the investigator and should be found in every medical library.

HANDBOOK OF THERAPY. Edited by Oliver T. Osborne, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine in Yale Medical School. Third Edition. Revised and Enlarged. Cloth. Price, $1.50. Pp. 634. Chicago: American Medical Association, 535 Dearborn Avenue, 1912.

While the previous plan of this book has been continued, so many articles have been eliminated or revised and so many new ones added that the work is practically a new one. Over 200 pages have been added. New articles, as in previous editions, have been taken from the department of Therapeutics of THE JOURNAL of the American Medical Association.

The section on prescription-writing has been rewritten, the table of poisons has been classified and, in addition to the antidotes, special symptoms are mentioned. Among the new subjects giving added value to the book are articles on infectious diseases, measles, scarlet fever, whooping-cough, diphtheria, meningitis, infantile paralysis and typhoid fever, and on typhoid carriers and prophylactic vaccination. Rheumatism, chronic arthritis, diabetes, mellitus and insipidus, glycosuria and a section on tuberculosis are also new in the present edition. The section on the diseases of the digestive system, including the various enteritides, has also been greatly extended and amounts practically to a new section. Heart diseases are more fully treated and the genito-urinary section has been considerably enlarged. Among other subjects of practical importance, for which management and treatment are given, are alcoholism and the drug habits, asphyxia from gas poisoning and drowning, heat prostration and pruritus. Infant mortality and feeding, vaccine treatment, anesthesia and anesthetics and articles on drugs are also included.

The book, in its present form, contains articles of practical value selected from the writings of authorities on the various subjects. It cannot fail to be a most useful book to the student and practitioner.

DEVELOPMENTAL PATHOLOGY. A Study in Degenerative Evolution. By Eugene S. Talbot, M.S., D.D.S. Cloth. Price, $6. Pp. 425, with 346 illustrations. Boston: Richard G. Badger, 1911.

Dr. Talbot believes that "developmental pathology does not receive the attention which its relations to the etiologic moment of disease and disorder merit"; therefore he attempts to explain many defects, both mental and physical, on phylogenetic and ontogenetic grounds. Every deviation from the normal is considered a defect and hence a stigma of degeneration to be explained by phylogeny or ontogeny. The great difficulty, however, which the author meets constantly is the establishment of a normal. Man has reached his present state as a result of evolution and is still undergoing evolutionary changes. Hence, it may very readily be seen that a definite, fixed normal for every part of the body is impossible to establish. This fact, at times, places the author in a rather awkward position. For instance, a great many slight deviations in outline and contour of the ear are mentioned, each of which is considered a mark of degeneration. The author says: "The external ear is of all organs the most commonly affected by degeneracy." This is followed soon afterward by a statement to the effect that one almost never finds a normal ear. As almost all ears show defects and as these defects are marks of degeneracy, are we to conclude that most people are degenerates? The author is too much inclined to consider as evidences of degeneration slight deviations from an ideal normal which he admits is rarely if ever found.

Again: "If the brain be normal the structures of the body will develop normal. On the other hand, if from any cause the brain is abnormally developed, unstable or defective, the structures of the body will become abnormal." Neither of these statements is strictly correct, for many mentally normal persons are physically defective in some way, and many fine physiques are found in those who are mentally defective.

It is unsafe to attempt to draw deductions as to a given person's mentality from some slight physical defect. It is one thing to pick out the physical defects in one who is already an established criminal or degenerate and quite another thing to pick out those who are to become criminals or degenerates, by noting some slight physical defects. In other words, the rule is one which at present does not work both ways. The author, being a dentist, naturally has a great deal to say about defects of the teeth, palate and jaws. While these defects are all very interesting, they are perhaps not quite so significant as Dr. Talbot would have us believe. There is considerable repetition in the book due to summarizing at the end of each chapter what is contained in that chapter.

Some of the illustrations are very poor, so that it requires considerable imagination to recognize what they are intended to show. There are a great many facts contained in the book, covering as it does, both phylogeny and ontogeny, and it is so condensed as to make reading at times a little tiresome, but the work is a very interesting one and well worth reading as it will help both the physician and the sociologist to explain many conditions in the problem of life.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, Etc., With the Pronunciation, Derivation, and Definition. Including Much Collateral Information of an Encyclopedic Character. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci, Streptococci, Ptomains and Leukomains, Weights and Measures, Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. By W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association. Sixth Edition. Leather. Price, $4.50 net. Pp. 986, with illustrations. Philadelphia: W. B. Saunders Company, 1911.

Several improvements have been made over the fifth edition. For instance, title words are given with an initial lower-case letter, the capitals being reserved for proper names only, thus giving a complete guide to capitalization—a very desirable feature; short bibliographic sketches of the "fathers" of medicine, particularly those of greatest importance in the early history of medicine, are given; also full definitions of terms used in dentistry and veterinary medicine, and numerous tables of dosage and therapeutics. Many inconsistencies have been eliminated, but some still remain, as for instance, the varying spelling of derivatives from a single root evidenced in "angiitis," "cholangeitis," and "lymphangitis;" the random use of the dieresis; and the use of hyphens, which follows the style of the "Standard Dictionary" in the main but occasionally and erratically departs therefrom. "Bacteremia" and "bacteriemia" are given without indication of preference. For the seventh edition, it is to be hoped that careful collation will be done to make the work a consistent and reliable guide on such points as those we have mentioned. On the whole, however, this is a valuable and useful dictionary, which becomes more satisfactory with each succeeding edition.

THE ANGLO-AMERICAN MEDICAL ASSOCIATION OF BERLIN, 1911-12. Club Rooms and Bureau of Information. Friedrich-Strasse No. 105, Hotel Atlas. Paper. Price, 5 cents.

The Anglo-American Medical Association of Berlin, an organization formed to promote the scientific and social interests of American and British physicians in that city, has issued a pamphlet of eighty pages which proves to be a miniature Baedecker for American and English medical men desiring to pursue studies in that city. It contains a very extensive list of courses in medicine to be had in Berlin, giving name of instructor, address, course, fee, etc. The society has recently moved into its new rooms and headquarters in the Hotel Atlas, Friedrichstrasse, 105. American physicians visiting Berlin will be welcomed there and given aid with information in regard to courses, clinics and lodgings.

V. 5
1912

Medicolegal

Liability of Sellers of Unwholesome Food at Public Eating Places

(Doyle vs. Fuerst & Kraemer, Limited (La.), 56 So. R. 906)

The Supreme Court of Louisiana affirms a judgment for damages for the plaintiff, who alleges that he was ptomain poisoned from having eaten cakes and chocolate with whipped cream at the defendant's confectionary where refreshments were served to the public. The court holds that a seller of food, such as chocolate and cakes sold at a public eating place, is presumed to know any unwholesome condition of the food, and is liable for damages to a purchaser through being made ill on account of unwholesomeness. It is common knowledge, to which the keeper of a public eating place must be held, that food in which the process of decomposition has begun is liable to make the person who eats it ill. Indeed, the court does not think that there can be any serious difference of opinion on the point that an eating establishment which sells unwholesome food to be consumed by its customers must be held to have contemplated the probable effects of such tainted food on the customer. The measure of damages sustained by a purchaser of food, who is made ill through its unwholesomeness, is not merely reimbursement of the price, but all damages that were foreseen or could have easily been foreseen as likely to have resulted, though the seller's knowledge of the unwholesome condition was imputed and not actual. One hundred dollars was not an excessive award to a purchaser of food for illness resulting from ptomain poisoning caused by unwholesomeness of the food, where he suffered intense pain, believed for two hours that he was in danger of death and suffered an attack of jaundice in consequence.

Application of Doctrine of Assumption of Risk to Treatment With X-Rays

(Hales vs. Raines (Mo.), 141 S. W. R. 917)

The St. Louis Court of Appeals reverses a judgment obtained by the plaintiff for alleged malpractice in the manner of the treatment of his hand for eczema with *x*-rays, by which the inner tissues of his hand were so burned as to occasion its permanent injury, producing, according to the language of some of the witnesses, a "claw hand." The court holds, among other things, that an instruction given the jury should have required them to answer pointedly as to whether or not the defendant required the plaintiff to expose his hand within one-half inch of the tube, as the plaintiff testified, or within 6 to 12 inches thereof, as the defendant testified; for that was the issuable fact in the case. Also, that, as this suit was rightfully proceeding on the same cause of action as that declared on in a prior suit, the court very properly instructed a verdict for the plaintiff on the defendant's counterclaim, which was predicated solely on the malicious prosecution with respect to specifications of negligence pertaining to the same course of treatment and contained in the same count of the prior petition, asserting damages for the injury to the plaintiff's hand, which was here declared on.

Assuming that the matter of assumed risk was properly an issue in the case, the court believes that the full measure of the agreement touching that matter should be regarded forbidden by the precepts of public policy alone. It appeared that the defendant advised the use of the *x*-ray as a proper treatment, if the plaintiff desired it, though he warned him that it was a new method which involved some danger. It was contended that the risk of this danger the plaintiff agreed to assume, if the defendant would apply that treatment which, in his judgment, was proper, and that the plaintiff solicited the treatment. But, as to such matters, the parties were in no respect on equal footing. The defendant's position through education and experience was one which rendered him competent to judge of the probable consequences which might result from the use of the *x*-ray, and to speak with a degree of authority thereon. The plaintiff, a man unlearned with respect to the science of medicine and the use of surgical appliances, must rely on the judgment of the physician so enlightened by learning and experience, and this he had a right to do, for so much was implied in the relation of physician and patient. If, then, on the request of the patient for such treatment, the physician advises the use of a particular appliance, such as the *x*-ray, to be proper, his patient undoubtedly may rely on this and act accordingly, though the physician says, too, it involves some danger.

Touching the matter of assumed risk, it appears quite clear that if, in the circumstances stated, the parties contract with respect to the assumption of the risk from such danger as is involved in the use of the *x*-ray, a new appliance not well understood, the risk assumed is one other and distinct from that which is introduced into the case by the defendant's negligence. In other words, though the plaintiff should be regarded as having assumed by his express agreement such risks as attend the employment of the *x*-ray, this agreement essentially implied a careful and skilful application thereof on the part of the defendant. The court deems it to be contrary to the precepts of public policy to declare such agreement valid in the full measure of its scope, and entail on the plaintiff, as within it, the consequences of the defendant's negligence in exposing his hand nine separate times within one-half inch of the tube; for consent concerning such matters avails nothing, unless due care and skill is employed by the physician. In this view, the matter of the risk which the defendant asserted that the plaintiff assumed amounted to no more than that which is assumed by the servant as ordinarily incident to the employment which the master affords him, and the consequences of which risk, it is declared, may not be enlarged by the master's negligence, or entailed on the servant if it arises from the failure of the master to observe the precepts of ordinary care. But, though that be true, the trial court erred in excluding the defendant's evidence touching this matter, for it might be that the plaintiff's injury resulted from a risk which attended the application of the *x*-ray with due care, and that he had agreed to take on himself.

Representations as to Health and Physician's Statement as to Prior Condition Not Binding on Beneficiary

(Frazier vs. Metropolitan Life Insurance Co. (Mo.), 141 S. W. R. 936)

The St. Louis Court of Appeals affirms a judgment for the plaintiff as beneficiary under an insurance policy on the life of her daughter, dated May 31, 1909, when death occurred September 11, 1909, caused, according to the physician's certificate, by tuberculosis which the insured had since January 1, 1909, while the policy provided that the company assumed no obligation thereunder, unless on the date of the policy the insured was in sound health. The court holds that this condition of the policy amounted to nothing more, under the Missouri statute, than a representation the falsity of which rendered the policy void only if the matter misrepresented actually contributed to the death of the insured, and whether it so contributed in any case should be a question for the jury.

The policy also provided that "Proofs of death under this policy shall be made on blanks to be furnished by the company, and shall contain answers to each question propounded to the claimant, physicians, and other persons. . . . All the contents of such proofs of death shall be evidence of the facts therein stated in behalf of, but not against, the company." The court holds that statements in the physician's certificate, being contained in the proofs of death indorsed by the beneficiary, were admissible in evidence against her as admissions by her of the truth of the statements therein contained. But such admissions were not conclusive against her. It was competent for her to explain the alleged admissions, and to show that she was under a mistake in making them, or to prove any other circumstances which would do away with their effect.

Nor was there error in refusing to permit the attending physician of the insured to testify. No doubt by a provision in the policy the insured might waive in advance the incompetency of the physician under the statute to testify, and bind her beneficiary by such waiver. But such incompetency was

not waived by the provision quoted concerning the proofs of death. That contained nothing to indicate that the answers of the physician might disclose information acquired by him from the insured while attending her in a professional capacity, and necessary to enable him to prescribe for her as a physician; nor that they were to relate to the medical history or cause of death of the insured. The insured might well have believed from the nature of the instrument which was to contain the answers that they would be confined within the proper scope of mere "proofs of death," and relate to nothing else than the fact of death.

Tuberculous Throat and Representation for Life Insurance

(Cole vs. Mutual Life Insurance Co. (La.), 56 So. R. 645)

The Supreme Court of Louisiana holds that a life insurance company sued on a policy has the burden of showing that the insured's throat was tuberculous, as affecting a defense that he misstated in his application that he was in good health. A statement by an applicant for reinstatement of life insurance that his health has remained good and unimpaired since his examination under the original application does not amount to a warranty, but is a mere representation, needing to be true only to his best knowledge and belief. That an applicant for reinstatement of life insurance was treated by a physician for what was regarded as a common temporary inflammation of the throat did not constitute "consultation" of a physician within a statement in the application that he had not consulted a physician since a certain time, though it later appeared that applicant had tuberculous laryngitis.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 4-7.

American Academy of Medicine, Atlantic City, May 30-June 2.
Amer. Assn. of Genito-Urinary Surgeons, Philadelphia, June 7-8.
American Association of Medical Examiners, Atlantic City, June 3.
American Climatological Association, Hartford, Conn., June 10-12
American Dermatological Association, St. Louis, May 23-25.
American Gastro-Enterological Association, Atlantic City, June 3-4.
American Gynecological Society, Baltimore, May 28-30.
Amer. Laryngolog., Rhinolog. and Otolog. Soc., Phila., May 13-15.
American Medico-Psychological Association, Atlantic City, May 28-31.
American Neurological Association, Boston, May 30-June 1.
American Ophthalmological Society, Atlantic City, June 12-13.
American Orthopedic Association, Atlantic City, May 30-June 1.
American Otological Society, Atlantic City, June 10-11.
American Pediatric Society, Hot Springs, Va., May 29-31.
American Proctologic Society, Atlantic City, June 3-4.
American Society of Tropical Medicine, Atlantic City, June 3.
American Surgical Association, Montreal, May 29-31.
American Therapeutic Society, Montreal, May 31-June 1.
Arkansas Medical Society, Hot Springs, May 13-16.
Association of American Physicians, Atlantic City, May 14-15.
Connecticut State Medical Society, New Haven, May 22.
Illinois State Medical Society, Springfield, May 21-23.
Maine Medical Association, Portland, June 12-13.
Massachusetts Medical Society, Boston, June 11-12.
Missouri State Medical Association, Sedalia, May 21-23.
Nat. Assn. for Study and Prev. Tuberculosis, Washington, May 30-31.
National Association for Study of Epilepsy, Vineland, N. J., June 3.
New Jersey Medical Society, Spring Lake, June 11-13.
North Carolina Medical Society, Hendersonville, June 18-20.
North Dakota State Medical Association, Valley City, May 14-15.
Rhode Island Medical Society, Providence, June 12-13.
South Dakota State Medical Association, Mitchell, May 22-24.
Wisconsin State Medical Society, Wausau, May 22-24.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA

Annual Meeting, Held at Birmingham, April 16-19, 1912

The President, DR. LEWIS COLEMAN MORRIS, Birmingham, in the Chair

Officers Elected

The following officers were elected for the ensuing year: President, Dr. H. T. Inge, Mobile; vice-president, Dr. H. W. Blair, Sheffield; secretary, Dr. J. N. Baker, Montgomery. Mobile was chosen as the place for next year's meeting.

Pellagra as It Exists in Alabama

Dr. M. B. CAMERON, Eutaw: Pellagra in Alabama has been gradually spreading, until in 1910-11 it reached the proportion of an epidemic. It has reached every county in the state, and caused nearly 1,000 deaths during 1911. About three females are affected to one male, and the disease is more common among the whites than among the blacks. The true etiology of pellagra seems to be shrouded in mystery. Studying its extensive spread over Alabama during the last few years from a causative standpoint we have many substantial reasons to sustain the maize theory. Prior to 1905 the production of corn in this state was ample to supply the food needs of the inhabitants. Since that time the corn production in this state has been greatly reduced by droughts and the increased price of cotton. Although our state in the past two years has increased her yield of corn sufficient to supply the food demands of her people, we are without the means to convert this grain into meal, owing to the abandonment of our grist mills during the non-production period. The method of curing the corn in shocks tends to make it unfit for use. The supreme treatment of pellagra is prevention. To accomplish this there should be a rigid inspection of all food-supplies shipped into the state, especially corn products, and there should be a standard of purity established that would exclude all products of questionable character. This inspection should be directly in the hands of the medical profession.

Certain Aspects of the Pellagra Question

P. A. Surgeon C. H. LAVINDER, U. S. P. H. and M.-H. Service. What is the cause of pellagra? The question to be solved—at present an unanswerable one—is whether pellagra is to be considered as a food poison derived from maize or whether it is a parasitic disease. It has been shown, notably by Alsberg, that during the past few years the corn-supply of the southern states has been affected by new and different conditions. Once growing and consuming her own product, the South, still a large consumer of corn, is now largely supplied with the corn of the Middle West. Agricultural conditions there have undergone changes also, and corn is now grown so far north as to jeopardize its proper maturing. It is often harvested green, badly stored and, in the absence of proper inspection laws, is transported under unfavorable conditions. It is a grain more or less subject to ready deterioration, and only too often reaches the South in a damaged state. In our fight for pure food it appears to me that the elimination of spoiled corn is a factor of great importance.

The diagnosis of pellagra in well-marked cases offers little difficulty to any one who has such a disease in mind. It is always to be kept in mind that the disease is essentially a disturbance of the central nervous system. The skin manifestations, being so prominently in evidence, have always attracted great attention and have given the disease its name, but their great importance is in diagnosis.

The treatment of the disease is not always satisfactory and the outlook is often unpromising. This, together with the great publicity given this disease in the secular press, has given rise to a wide-spread pellagraphobia. I think it is our duty to do all in our power to counteract this fear, but we cannot and should not conceal from ourselves the gravity of the situation confronting us. This question rises to the gravity of a national problem demanding the most serious attention.

DISCUSSION

Dr. W. W. HARPER, Selma: Is there any relation between pellagra and uncinariasis? How about salvarsan in pellagra? I have used it in some cases and it seemed to do good.

Dr. J. S. MCLESTER, Birmingham: About a year ago we had a typical case of pellagra in which we gave salvarsan. The recovery for the time being was remarkable. At the same time we had two other cases that showed improvement. Later the first patient was admitted to the hospital with a return of the trouble, and died there. We have given salvarsan in nineteen cases in all, and in a number it has had no effect. A few cases have shown improvement. The only explanation I can offer is that salvarsan will help almost any condition temporarily.

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Dr. J. T. SEARCY, Tuscaloosa: Isn't it necessary for a person to have a nervous instability to have pellagra? We know that it produces insanity, and that the insane have pellagra. In nearly all cases seen outside of the hospital I can get a family history of insanity, alcoholism or epilepsy, and this has led me to believe that nervous instability predisposes to pellagra. The similarity between pellagra and ergot poisoning is so marked that the question arises, Why cannot corn smut produce pellagra if the smut on rye can produce ergot poisoning? In Iowa last summer I found that corn smut had been very common there for the last twelve or fifteen years, and that the method of gathering the corn favors the dissemination of this smut through the corn when it is milled.

Dr. M. B. CAMERON: As to uncinariasis and pellagra: Any patient with a chronic complaint is apt to develop pellagra. Patients with tuberculosis, bad condition of the blood and carcinoma are apt to develop it.

Dr. C. H. LAVINDER: Statistics show that salvarsan is not much better than anything else in pellagra. As to whether nervous instability predisposes to pellagra, I would answer in the affirmative. Pellagra is a secondary disease. I do not know the cause of pellagra; but there is no question but that the South is flooded with rotten corn, that it is not fit to eat, and that it is our business to get rid of it.

Elimination of Preventable Disasters from Surgery

Dr. MAURICE H. RICHARDSON, Boston: Among the preventable causes of disaster is, first, failure on the part of the patient to recognize the necessity for surgical or medical advice. The physician or the surgeon, once the patient has come to him, may err in diagnosis so that the opportunity for timely intervention is lost. The remedy for the loss of opportunity is, first, the broad dissemination among the laity of a sound knowledge of the early symptoms of disease and the importance of reporting to the physician those symptoms. This effort is being made yearly at the Harvard Medical School by the establishment of popular lectures on medical subjects. Once medical aid is sought, the next thing is the establishment of the correct diagnosis and through our knowledge of the pathology an accurate prognosis. A sound basis of indications and contra-indications for or against operation is a natural consequence.

Most of our real preventable disasters in surgery come from ignorance and human fallibility. The remedy for this source of disaster is the cultivation of our powers of diagnosis through faithful and never-ending effort. The physician and the surgeon must ever seek to find the relation between cause and effect; must learn above all things to profit by their own errors in diagnosis and to teach others by the candid avowal and wide dissemination of their own mistakes. Haste, inadequate study and unquestioning acceptance of the diagnosis of others is responsible for many calamitous diagnoses, for on such interpretation of histories and physical signs preconceived and erroneous deductions are based, and on such deductions operations not only useless but actually disastrous are performed. A profound knowledge of pathology is requisite for prognosis.

A frequent source of disaster, and the most easily preventable of all, is that due to faulty technic. Our profession should make haste to insist on a technical education in surgery by which mechanical and technical disasters will be reduced to a minimum. The operator should combine a thorough knowledge of bacteriology and an intimate familiarity with human anatomy. Some of the preventable disasters in surgery are preventable only in theory. Such are the occasional, but fortunately more and more infrequent, contamination of operative fields apparently aseptic. To this group also belong such awful calamities as the pulmonary embolism, and the occasional inexplicable death from anesthesia.

Surgeons, like other men whose work is in practice purely mechanical, have their equation of error. By constant, tireless effort, intellectually and mechanically, the surgeon may reduce the contingency of error to low terms. There will ever remain the disasters that are unforeseeable, unpreventable, like the lightning and the earthquake, beyond human powers of prediction or prevention—the uninsurable.

The Removal of an Unusually Large Ureteral Stone

DR. J. N. BAKER, Montgomery: A man aged 24, white, consulted me on account of a prostatic condition. Under appropriate treatment the local condition markedly improved, although the pus in the urine persisted. An attack of ureteral colic some two months later was attributed to infection extending up the ureter, but a skiagram showed a stone in the lower end of the ureter. Operation was advised and accepted. The usual incision for stone in the lower end of the ureter was made. The stone was located just above where the ureter enters the bladder. It was pushed up an inch or more, and a stone weighing 94 grains was removed. The opening in the ureter was closed by three fine chromic catgut sutures, and a cigarette drain put in. The drain was removed on the eighth day, and recovery was uneventful.

Nephritis: the Medical vs. the Surgical Aspect

DR. JAMES E. DEDMAN, Birmingham: Clinically the various types of nephritis can often be differentiated, but as far as end results are concerned (excluding pyogenic infections) it makes but little difference in the treatment. One type of nephritis may later assume all the characteristics of another type by progression of the degenerative process. The diagnosis should be made as early as possible, and it should be remembered that some of the severest nephritides may at times exhibit no albuminuria or cylinduria. In any person under 55 or 60 who exhibits a high blood-pressure, hardened arteries, and hypertrophied heart, renal disease should be suspected. Some of the severest types may have their beginning in former septic infections. It is important to maintain the nitrogen and circulatory equilibrium by proper diet and regimen, and the intake of nitrogen, sodium chlorid and water should be in fixed relation to the excretion. By proper dietetic regimen and right living, patients who at times are hopelessly doomed to lives of invalidism may be rescued to a comfortable and useful life. The phenolsulphonephthalein test for functional activity has opened up a field which may further lessen the mortality in the surgical field. When all the methods at hand for restoring the circulatory equilibrium have been exhausted, and the patient is in imminent danger from uremia, decapsulation may give wonderful relief, and be a means of prolonging the patient's life many years. No surgical procedure should be instituted without a careful weighing up of all the symptoms present, and a preoperative test for the functional activity of each kidney. Finally, just as in tuberculosis of the lungs, no hope of relief can be offered when the degenerative process has destroyed the functionating structures, so in no form of nephritis where a similar destructive process has made its inroads, can either medicine or surgery be of any avail.

Some Lessons to Be Learned From Results of Treatment of Pulmonary Tuberculosis

DR. W. L. DUNN, Asheville, N. C.: The post-mortem findings showing anatomic or absolute cures are, in nearly every instance, exceedingly small lesions which have produced few or no symptoms and which could have shown either no physical signs or so few that they might have been recognized only by the most painstaking examination. Autopsy findings showing cure of treated clinical tuberculosis are very few. Rational methods of treatment have exaggerated Nature's tendency to cure even in much more advanced cases, as manifested by a distinct lengthening of the periods of quiescence normally occurring in the course of the untreated disease. The earlier these methods are instituted, the more certain the bringing about this state of arrest and the longer the period before relapse. Only in the cases treated exceedingly early are we justified in anticipating a permanent result. From these observations we must conclude that if tuberculosis is to have a place in the list of curable diseases, either our methods of treatment must be greatly improved or the cases must be diagnosed earlier.

Some Contra-Indications to the Removal of the Tonsils

DR. C. F. ACKER, Montevallo: The majority of operators in this country enucleate both tonsils as a routine procedure

in practically every diseased condition of the ear, nose and throat and several constitutional diseases presenting little or no upper air passage manifestations; and this despite the fact that there exists with reference to the physiology and pathology of these structures the most widely divergent and sharply conflicting ideas. On the treatment, however, they agree that, diseased or not, prompt and complete enucleation is the thing. The removal of the tonsils, except for absolute inherent disease, is a needless sacrifice of important guardians of the body against invasion by germs and infectious material. As lymph-nodes they are certainly entitled to protection where possible, and as mucus-secreting organs they perform a substitute service entitling them to conservative treatment.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Sixth Annual Meeting, held at Albany, April 15-18, 1912

(Concluded from page 1396)

Graphic Methods in the Diagnosis of Heart Lesions

DR. L. H. NEUMAN, Albany: Paroxsymal tachycardia, if associated with regular rhythm, is usually auricular in origin. This can easily be determined by the polygraphic tracing. We see two forms of tachycardia, one in which the normal rhythm is preserved, and second where the pacemaker of the heart is not acting properly. Included in the latter are cases associated with auricular fibrillation. Auricular fibrillation is important. Where, in place of normal contraction of the auricle, a quivering of this part of the heart is substituted, we get very marked irregularity of the pulse. While fibrillation of the auricle may continue for years, fibrillation of the ventricle promptly produces death. In diseased hearts the administration of digitalis can be controlled polygraphically, as where the *a-c* interval is lengthened, serious results may follow its administration, the drug having an identical effect. In advanced cases of cardiosclerosis, with increase of the *a-c* interval, digitalis should be given with caution as it lowers the conductivity of the auriculoventricular bundle. In a pulse which shows regularity, digitalis may produce irregularity by its effect on conduction, but it is probable that digitalis or vagal stimulation only affects hearts with impairment of conduction due to disease of the auriculoventricular bundle. In the ventricular type of jugular pulse, associated with dilatation of the heart, digitalis often gives marvelous results.

DISCUSSION

DR. LOUIS F. BISHOP, New York City: After the introduction of the Mackenzie polygraph, I began to make pulse tracings of all my patients, and in 50 per cent. of the tracings something valuable was learned. We have learned that when the base of the heart is at fault, and the ventricles are fairly sound, digitalis gives wonderful therapeutic results. We have learned that the commonest and most serious form of heart trouble is a trembling palsy of the auricle. Each one of the tremors transmits to the ventricle an impulse to contract, and the ventricle responds as best it can. If the ventricle is absolutely healthy, which is seldom the case in advanced heart disease, it may respond in a perfectly rhythmic manner, but in most cases the ventricle is not absolutely sound, and it responds in a disorderly manner. We get a pulse varying from 120 to 160, and irregular. The proper administration of digitalis in a case like that produces artificial heart-block and cuts off from the ventricle a great many impulses, and the ventricle is able to respond to a sufficient number of them to take up its work again. These are the cases in which the efficient administration of digitalis—in the case of dropsy with irregular heart—causes disappearance of the dropsy in a week or ten days.

DR. JOHN M. SWAN, Rochester: The Uskoff instrument has enabled me to make an early diagnosis in a case of heart-block, and in another case to determine that the cardiac irregularity was due to the overadministration of digitalis. As soon as the digitalis was discontinued, the cardiac irregularity disappeared.

Treatment of Arterial Hypertension

DR. EDWARD C. TITUS, New York City: The dietary regulations in cases of arterial hypertension must be strictly individualized in accordance with the causative factors. Many of the subjects of hypertension are men and women who are overfed and underexercised. In advising exercise we must take this fact into consideration and counsel great moderation at the beginning of treatment.

To obtain the best results from the Nauheim baths, the patient should take them under the supervision of men who have made a specialty of this method of treatment. Massage in its various forms is particularly indicated in patients who are unwilling to take active exercise or are unable to do so until their hypertension has been brought under control.

Treatment of Arteriosclerosis

DR. JOHN M. SWAN, Rochester: Rest in bed with massage daily is capable of producing a marked reduction in the blood-pressure of a patient suffering from arteriosclerosis. The important details of the diet for patients with arteriosclerosis are, first, to reduce the total amount of food; second, to reduce the amount of protein in the dietary; third, to limit the amount of fluid ingested. Measures that will produce sweating—hot baths with blanket packs, Russian baths, vapor cabinet baths, and electric light baths—are capable of reducing the blood-pressure, ameliorating the symptoms in cases of arteriosclerosis with high blood-pressure. In thin patients the severer forms of treatment may be replaced by the administration of a neutral full bath of either fresh or salt water. Carbonated brine—Nauheim baths—should not be given in cases of arteriosclerosis with high blood-pressure, particularly when there are indications of nephritis. Faradism, galvanism, and the high-frequency current applied to the skin through the vacuum tube are valuable in relieving anesthesias, hyperesthesias, and the paresthesias which are met with in cases of arteriosclerosis. Autocondensation may reduce blood-pressure, but the treatment should be given with great care. The crown breeze, particularly administered at bed-time, is capable of relieving insomnia in some cases.

Hyperacidity

DR. GEORGE R. LOCKWOOD, New York City: In my own experience in private practice, 17.4 per cent. of cases of indigestion show hyperacidity associated with hypersecretion, while but 13.8 per cent. reveal hyperacidity alone without any increase in the quantity of the gastric juice either in the fasting or in the digesting period. My experience leads me to the conclusion that hyperacidity is about one-half as common in hospital cases as it is in private practice. Dietetic errors of various kinds have been and are still generally considered the most prolific causes for hyperacidity. This I cannot verify. In my cases the effect of diet has been practically negligible.

The Significance of an Acid Gastric Juice in the Fasting Stomach

DR. HAROLD BARCLAY, New York City: Chronic continuous hypersecretion in the fasting stomach is a symptom, and not a disease. The condition is due to some definite lesion of the gastro-intestinal tract, and is not dependent on a nervous irritability of the gastric glands, or the motor function of the stomach.

The Services of the Sciences to Rational Medicine

DR. HARVEY W. WILEY, Washington, D. C.: The studies into the causes of immunity from disease have been epoch-making in the last quarter of a century. The whole theory of immunity has been taken out of the realm of pure empiricism and based on scientific truth. The healthy, well-nourished individual has a marvelous power of resistance to infection. Even if we should not succeed in exterminating the sources of infection entirely, we may make the human race so immune to the ravages of infective diseases as to render their effects on the death-rate negligible. Fortunately, there is no creed or doctrine to which the true physician must subscribe.

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The science of medicine does not know the name of any school which restricts the activities of investigation or the belief which the true physician can bear. The introduction of scientific methods into medicine has shown that in practically every so-called school of medicine there is some kernel of truth which may be available to the physician, but it has been used beyond its natural limit of application by the school in question, so as to reduce it to absurdity. All that is good in all the schools or creeds belongs to the science of medicine. Many of the so-called schools are only branches of medicine as it is practiced to-day. There are other so-called schools of medicine, which are of a character to defy accurate description. One of the chief objections to such creeds is that they are narrow the limit of medicine to such an extent that there is no room for expansion without transgressing the creed. Creeds restrict and restrain. They breed distrust and denunciation. They incite prejudice and battle. If they are useful, it is because they make people think and consider, and a full discussion of every problem leads gradually to the elimination of error and the establishment of truth.

Cancer of the Prostate

DR. EUGENE FULLER, New York City: Clinically, it is well to divide these cases into two groups. In the first and principal one, cancer engrafts itself on the part as a primary pathologic process. In the second and minor group, what was primarily apparently a benign senile hypertrophy, becomes secondarily cancerous. In these latter cases the irritating effects of trauma and infection, to which the gland is exposed in a state of hypertrophy, act as agencies favorable to the implantation on it of malignancy as a secondary pathologic process. If a diagnosis can be made very early, while the disease is wholly confined to the prostate proper, a prompt prostatectomy, with a careful and radical removal of the entire gland would be the proper and ideal treatment. Such a diagnosis is rarely made in the very early stage of the disease. If prostatectomy be performed in a case in which the cancerous process is so advanced that the radical and complete removal of the growth is impossible, and at the same time, before the patient has become especially inconvenienced by his disease, it is probable that the development of the growth subsequent to operation, will, after a short interval, render the patient as uncomfortable, or, perhaps, more uncomfortable, than he was before the operation. Where prostatectomy has been thoroughly performed for cancer of the prostate in a case in which the disease has not extensively progressed beyond the gland, the growth being somewhat scirrhous in its composition, the outlook for the patient ought to be a state of complete or comparative comfort, as far as the urinary condition is concerned, for a period of from seven to eleven months. After that time it is unusual for symptoms of retention to recur, but rather those of incontinence, and should there develop intravesical infection, especially associated with triple phosphate deposits, there may be considerable vesical pain, which could then be relieved by anodynes. When symptoms of grave discomfort gradually develop many months after prostatectomy in these cases, they are generally due to the gradual process of the disease into other parts away from the immediate region of the prostate.

Cardiac Sequelæ of Tonsillar Infection

DR. JOSEPH R. WISEMAN, Syracuse: Every case of tonsillitis or throat inflammation should be regarded as a serious disease and should be treated by rest in bed. Before discharge every patient should have several careful examinations of the heart and urine. Cardiac complications following throat infections are much more common than is generally believed. When cardiac sequelæ occur they should be treated by prolonged rest in bed.

The Duty of the Family Physician in the Management of Surgical Cases

DR. JOHN M. T. FINNEY, Baltimore: Surgery should be restricted to the trained surgeon. There is no royal road to surgery. It cannot be acquired in a ten-days' course, or by just watching some one operate. The family physician should not attempt to operate, as both his judgment and his execution are at fault. He is also putting himself in a wrong position before the community. He should not put himself in a place where he cannot defend himself in court before a jury—in a place where he cannot prove that he is competent to do the work he has undertaken. Only a small percentage of the cases coming to the general practitioner are surgical, so that referring them to the proper surgeon cannot appreciably affect his income.

In regard to the responsibility for the after-care of surgical cases, there should be no division of responsibility. The surgeon is responsible. The family physician should not interfere with his treatment by ordering favored remedies or failing to comply with the directions of the surgeon. Since the making of an early diagnosis is so important in many conditions, it is necessary that the family physician should be an expert diagnostician. He should not delay too long in calling in a surgeon. Surgery should be a last resort, but never a late one.

The Benefits of Vivisection to Mankind

DR. WALTER B. CANNON, Boston: The whole science of drug action has been discovered by animal experimentation. Ergot was tested on animals before it was put on the market, and this seems more fitting than that it should be tested on a woman who is bleeding to death. Antivivisectionists may think this over and take their choice. The Wassermann test for syphilis and Ehrlich's triumph are the result of animal experimentation. Animals are useful in making a diagnosis in some conditions, and in detecting typhoid and cholera carriers. If we are to prevent epidemics, it is important to find these carriers, and without animal experimentation sanatoriums would be deprived of their weapons of defense. For our knowledge of physiologic phenomena, vascular, cardiac, digestive, and the intricacies of the nervous system we are indebted to animals. A striking example of the value of physiologic study is its revelations that have made possible the cure of cretinism. All these things show an immense saving of human life, but the animals have shared in this benefit as well as mankind. The animal experimenter never justifies the infliction of needless pain.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Texas State Journal of Medicine, Fort Worth

April, VII, No. 12, pp. 319-356

1 Jaundice in Surgery. C. Johnson, Fort Worth.
2 Acute Diffuse Peritonitis Resulting from Ruptured Pyosalpinx. W. B. Carrell, Dallas.
3 Some Appendiceal Conditions and Interpretation of Blood Count. M. A. Wood, Houston.
4 *Treatment of Nasal Catarrh. L. L. Bartlett, Dalhart.
5 Gastric Roentgenology. E. H. Skinner, Kansas City, Mo.

4. Treatment of Nasal Catarrh.—In all cases of nasal catarrh in children between the ages of 4 and 12 years coming under his observation, Bartlett believes that eye strain was a factor in the cause of 20 per cent., and good results have been obtained by the aid of glasses. Nasal catarrh in children under 4 years of age is often from another cause, he says—intestinal irritation. The intestinal trouble may be worms or some bacteria acting as an irritant. The symptoms of this form of catarrh are closing of the nares, an abundant flow of mucus, and some excoriations around the nostrils. Often the symptoms of the intestinal parasites are plain. Often, also, the intestinal symptoms are absent or are also so slight that they are overlooked. The treatment of such patients is to relieve the intestinal trouble. When satisfied that there are worms or intestinal parasites present, santonin, Bartlett thinks, is probably the best remedy. Bartlett has had most satisfactory results following its administration, not only when there were parasites present, but even in cases in which symptoms did not indicate any such condition. Its action is more than that of a simple vermifuge. It seems to clear the alimentary

tract of the germs of decomposition, and has a very soothing effect on the mucosa and the nerve-endings of the stomach and intestines. In nasal catarrh in children under 5 years of age, in whom the cause is not deformity, heredity, irritating air, intestinal trouble should be thought of, and appropriate medicinal treatment instituted.

Journal-Lancet, Minneapolis

April 15, XXXII, No. 8, pp. 197-224

6 Some Malformations of Female Genitalia. F. L. Adair, Minneapolis.
7 Imperforate Anus. A. A. Law, Minneapolis.
8 The New Public Health. H. W. Hill, Minneapolis.

Bulletin of Manila Medical Society

February, IV, No. 2, pp. 26-39

9 *Cure of Infantile Beriberi by Administration to Infant of Extract of Rice Polishings and Bearing Thereof on Etiology of Beriberi. W. P. Chamberlain and E. B. Vedder, U. S. A.
10 Medical Observations in Islands of South Pacific Ocean. V. G. Heiser, U. S. P. H. and M.-H. S.

9. **Cure of Infantile Beriberi.**—The history of the patients treated are condensed by the authors as follows: The mothers have all had symptoms of incipient or marked beriberi. In the incipient cases the symptoms have been numbness and pain in the legs, severe pain when the muscles were squeezed, and in some instances localized anesthesia and loss of knee-jerks. In the more advanced cases edema and rather marked paraplegia were present. A number of these mothers have previously had infants die with symptoms similar to those presented by the children which were brought to them. In every case the diet of the mother has been chiefly highly milled rice with a little fish and occasionally a bit of meat. The children have all been breast fed. With one exception all have been under 3 months of age. The disease usually has been ushered in with vomiting, which after a few days was followed by great restlessness, sleeplessness, continual whining and later by dypsnea, increased cardiac action and edema of the face and legs. Later still oliguria and aphonia developed in many of the patients. About one-half of the patients treated had aphonia, and some appeared to be at the point of death. On the other hand, several cases were milder.

The above is not intended as a complete clinical history, but merely as an indication of the class of patients treated by them. The infants were all given twenty drops of the extract of rice polishings every two hours while awake, and the results have been truly marvelous. Improvement is immediate. The vomiting stops in twenty-four or thirty-six hours. The child, who has not passed any urine for several days, urinates five or six times freely. The edema disappears in the course of a few days. Usually on the first night after treatment is begun the infant falls into a deep sleep, although it may have been practically sleepless for several weeks. The dyspnea and palpitation cease after two or three days. At the end of a week, or in less time, the patients are completely cured with the exception of the aphonia. The mother is positive that the baby is well and that she would be completely satisfied if only it would recover its voice. The aphonia, however, does not disappear until after about two months of treatment, when the voice usually returns quite suddenly. This is probably due to the fact that the aphonia is caused by degeneration of the pneumogastric nerve, which only slowly regenerates.

The authors claim that this extract is a "cure" in the true sense of the word, just as lime juice is a "cure" for scurvy, and that it acts with as great promptitude as does fruit juice in infantile scorbutus. Five cubic centimeters is the dose of extract given daily to the infants treated. It will thus be seen that these babies have received daily the equivalent of 83 grams of rice polishings, a very large dose, and this the authors believe accounts for the extremely rapid improvement. The administration of this quantity is readily accomplished by giving the mother exactly 5 cubic centimeters of extract and telling her she must give it to the child that day. By simply prescribing 20 drops every two hours, while awake, approximately the same quantity will be given. In cases that are far advanced and of a serious nature a larger amount should be given, since the extract is absolutely harmless and instead of irritating the stomach, appears to quiet it.

American Journal of Public Health, New York

March, II, No. 3, pp. 155-222

11 Air and Contact Infection at Providence City Hospital. C. V. Chapin, Providence, R. I.
12 Recent Contributions to Infantile Paralysis. M. W. Richardson, Boston.
13 Sanitary Inspection of Canal Zone. A. J. Orenstein, Canal Zone.
14 Use of Antityphoid Vaccine in Public Institutions and Among Civilians. F. W. Hachtel and H. W. Stoner, Baltimore.
15 Synthetic Milk Medium. H. A. Whittaker.
16 Further Observations on Chemistry of Disinfectants. W. Dreyfus, New York.
17 False Alarm of Yellow Fever and How It Was Met by Health Department. J. Guiteras, Cuba.
18 Annual Report on Yellow Fever in Mexican Republic. E. Liceaga, Mexico City.
19 Use of Modified Hess' Medium for Isolating Typhoid Bacillus and Cholera Spirillum from Stools. W. R. Stokes and F. W. Hachtel, Baltimore.
20 Hygiene of Swimming Pool. E. J. Tully, Madson, Wis.

Journal of Medical Research, Boston

April, XXVI, No. 1, pp. 1-194

21 Morphology of Parasitic and Cultural Amebæ. C. F. Craig, Washington, D. C.
22 Molasses Plate Method: Modification of Huber-Schmori-Obregia Method. A. S. Warthin, Ann Arbor, Mich.
23 *Colorimetric Test for Cholesterol. P. G. Weston, Warren, Pa.
24 *Antiseptic and Bactericidal Properties of Egg-White. L. F. Rettger and J. A. Sperry, New Haven, Conn.
25 *Formation of Pigment by Dermal Chromatophores. O. T. Schultz, Cleveland.
26 Study of Renal Epithelium in Various Types of Acute Experimental Nephritis and of Relation Which Exists Between Epithelial Changes and Total Output of Urine. W. de B. MacNider, Chapel Hill, N. C.
27 *Tests of Efficiency of Pasteurization of Milk Under Practical Conditions. E. H. Schorer and M. J. Rosenau, U. S. P. H. and M.-H. S.
28 Cultivation of Tissues in Vitro. G. C. Well, Pittsburgh.
29 Experimental Study of Measles in Monkeys. W. P. Lucas and E. L. Prizer, Boston.

23. **Colorimetric Test for Cholesterol.**—Satisfactory quantitative estimations of small quantities of cholesterol have been made by Weston by the following method: The cholesterol is dissolved in pure chloroform and a series of dilutions is made which will bring at least one solution between 0.0001 and 0.00025 gram to 1 c.c. of chloroform. A set of tubes is made up, containing pure cholesterol in quantities ranging from 0.0001 to 0.00025 gram to 1 c.c. of chloroform, each tube containing 0.000025 gram more than the preceding one. To each tube is now added 0.1 c.c. of concentrated sulphuric acid, and the mixture is thoroughly shaken. After thirty minutes 1 c.c. of chloroform is added, and thirty minutes later the unknown solutions are compared with the known. By this method differences of 0.00005 or 0.000025 gram can be detected. This method is recommended especially for the estimation of cholesterol in the blood, lymph and other fluids of which it is rarely possible to obtain a sufficient amount to enable one to isolate a weighable quantity.

24. **Antiseptic Properties of Egg-White.**—The observations made by Rettger and Sperry confirm those of other investigators, namely that egg-white has pronounced antiseptic and bactericidal properties toward certain bacteria.

25. **Formation of Pigment.**—The pigment produced by the pigment-forming cells of the skin Schultz says is not a hemoglobin derivative and it is not a degeneration in the ordinary sense. It is the product of the specialized physiological activity of the cell by which nuclear derivatives are transformed directly into pigment.

27. **Efficiency of Pasteurization of Milk.**—The authors undertook tests to determine the effectiveness of pasteurization under the conditions which commonly obtain in commercial practice. The essential parts of the pasteurizing apparatus consisted of a heater and a holding tank. Four separate tests were made, each with one hundred gallons of milk. In two of the tests it was planned to heat the milk to 140 F. and in the other two tests to 145 F. The temperature attempted was not attained. In the first test the milk flowing from the heater varied as much as 21 F.; more reliable records obtained at the holding tank showed a variation of as much as 40.2 F. In the first test in which it was attempted to pasteurize the milk at 145 F. some of the milk registered only 123.2 F. They found that it requires about seven minutes for a pasteurizing heater, of the type used, to settle down to a satisfactory working basis. That is, an automatically controlled pasteurizer does not heat

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the milk uniformly until it has been running at least seven minutes. They therefore recommend that milk which is pasteurized during the first ten minutes should again be run through the heater. In a deep holding tank the warmer milk rises. The coolest layer at the bottom may be the portion held for the shortest period of time. In any holding device the time should be counted from the moment the last milk reaches the holder. The phenomenon of layering was so pronounced in one of the tests that a difference of 13.4 F. was observed between the top and bottom layers.

They determined the efficiency of the apparatus with micro-organisms that represent the most frequent and the most serious causes of trouble in milk, viz., tubercle, typhoid and diphtheria. In two tests with *B. diphtheria* one succeeded, but the other failed to kill all these bacilli which had been added to the milk. In two tests with *B. typhosus* one succeeded, but the other failed. In two tests with *B. tuberculosis* (human) both failed, and in two tests with *B. tuberculosis* (bovine) one succeeded and one failed. Quantitative determinations of the number of typhoid, diphtheria and tubercle bacilli that may have been killed were not made, but the results plainly indicate that there was a quantitative reduction in the case of the experiments with tubercle bacilli. If the milk reaches 140 F. and is held there for twenty minutes it will kill tubercle, typhoid and diphtheria bacilli. The experiments show that milk pasteurized at this temperature for the specified time may not always, in practice, reach these minimum requirements. It is, therefore, evident that a liberal factor of safety is necessary in the operation of this type of pasteurizer under commercial conditions. The process should not be unduly hurried, for this increases the physical difficulties of uniformly heating all portions of the milk. Perhaps the best temperature to meet practical conditions is 145 F., and the milk should be held at this temperature from thirty to forty-five minutes.

The authors' observations indicate that a single holding tank is not as trustworthy as two, three or four in series. The first holding tank acts as an equalizer and the remaining tanks hold the milk at a uniform temperature for a definite period of time. Their studies again emphasize the necessity for official control over all pasteurizing plants. The process is such an important public health measure that it should not be left to the caprice of the individual. When pasteurizing apparatus is run by rule-of-thumb methods there is danger of under-heating and false security.

Journal of Missouri State Medical Association, St. Louis

April, VIII, No. 10, pp. 371-412

30 Common Deformities in Hip Disease: Their Treatment and Correction. A. O'Reilly, St. Louis.
31 Care of Epileptics in Special Institutions in United States. W. C. Graves, Chicago.
32 Prevention of Epilepsy. M. L. Perry, Parsons, Kan.
33 Plea for More Physical Education in Our Public Schools. J. Q. Cope, Lexington.
34 Interesting Cases of Ruptured Extra-Uterine Pregnancy. H. S. McKay, St. Louis.
35 Milk-Supply of Columbia, Mo. H. H. Van Horn, New Orleans.
36 Function of Ductless Glands. C. W. Watts, Fayette.
37 Case of Pyonephrosis from Calculus in Kidney. E. L. Haffner, Hermann.

Lancet-Clinic, Cincinnati

April 13, CVII, No. 15, pp. 397-422

38 *Effects Produced by Numerous Injections of Indol and Tyrosin in Experimental Animals: Contribution to Study of Chronic Intestinal Intoxications. L. H. Newburgh and P. C. Woolley, Cincinnati.
39 Some Features Essential to Success in Operative Treatment of Fractures. W. Fuller, Chicago.
40 Clinical Experiences with Typhoid. J. C. Larkin, Hillsboro, Ohio.
41 Researches in Prophylactic and Anaphylactic Medicine. L. K. Hirschberg, Baltimore.
42 Case of Crossed Hemidysergia and Tremor, with Asynergia of Binocular Movements. T. A. Williams, Washington, D. C.

April 20, CVII, No. 16, pp. 423-450

43 *Diagnosis of Prostatic Obstruction. B. Lewis, St. Louis.
44 *Cancer of Prostate. R. C. Bryan, Richmond, Va.
45 Cleft Palate. T. W. Brophy, Chicago.
46 Diagnosis in Important Surgical Conditions in Upper Abdomen, with Special Reference to Gastric and Duodenal Ulcers. A. D. Willmoth, Louisville, Ky.
47 Gunshot Wound of Spinal Cord. W. B. Burns, Memphis, Tenn.
48 Patent Laws of United States as They Apply to Medicines and Chemicals. W. T. Thackeray, Chicago.

38. Injections of Indol and Tyrosin.—Some evidence has been obtained by the authors that certain substances (indol and tyrosin) have a slight effect on the adrenals and that these glands are more markedly affected than the liver and kidneys. They have found no evidence in their material to support the belief that indicanuria is in any way responsible for the symptom-complex named "presclerosis" by Huchard. However, they believe that symptoms are produced when these bodies are present in sufficient concentration. They suggest that "sufficient concentration" does not depend on rate of production; in other words, that there is probably never sufficient indol produced in the intestine to cause symptoms so long as the oxidative and eliminative functions are normal. Certainly by no means all persons with a persistent indicanuria are sufferers from intestinal autointoxication. It is equally true that there is a group of individuals with persistent indicanuria whose symptoms are relieved when the indicanuria disappears. These persons are sick, not because too much indol is being formed, but because it is not removed with sufficient rapidity.

43 and 44.—Abstracted in THE JOURNAL Nov. 4, 1911, p. 1556.

Ohio State Medical Journal, Columbus

April 15, VIII, No. 4, pp. 171-240

49 Use of Bacterial Vaccines in Nasopharyngeal Infections. T. B. Cooley, Detroit.
50 What Does Medical Organization Mean to Profession and People? J. A. Thompson, Cincinnati.
51 Tuberculin in Diagnosis and Treatment of Surgical Tuberculosis. W. G. Stern, Cleveland.
52 *Abdominal Pain. R. H. Grube, Xenia.
53 Etiology and Pathology of Small Cystic Degeneration of Ovary. L. F. Smead, Toledo.
54 Position of Patient for Throat and Nasal Operations Under Local and General Anesthesia. M. D. Stevenson, Akron.
55 Medical Inspection in Public Schools. P. B. Brockway, Toledo.
56 Influence of Development of Brain on Nose and Face. J. M. Ingersoll, Cleveland.

52. Abstracted in THE JOURNAL May 27, 1911, p. 1601

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

April, LXV, No. 4/2, pp. 537-752

57 *Experimental Poisoning with Chloral Hydrate, with Reference to Its Effect on Liver and Kidneys. J. G. Hopkins, New York.
58 Lymphangioma of Fallopian Tube. A. P. Leighton, Portland, Me.
59 Case of Osteomalacia; Review of American Cases. W. H. W. Knipe, New York.
60 Cornual Pregnancy in Normal Uterus, with Report of Case. E. A. Shumann, Philadelphia.
61 *Normal Human Blood Serum in Obstetric and Pediatric Practice. J. E. Welch, New York.
62 *Case of Delivery Through Perineum. A. J. Rongy, New York.
63 Tristram Shandy and Obstetrics. W. H. Allport, Chicago.
64 Erb's Palsy. H. W. Frauenthal, New York.
65 Treatment of Fractures at Elbow in Childhood. W. F. Campbell, Brooklyn.
66 Blood in Infancy and Childhood. W. D. Ludlum, Brooklyn.
67 Symptomatology of Infantile Paralysis. J. V. Manning, Brooklyn.

57. Experimental Poisoning.—In a series of twenty-six dogs poisoned experimentally by Hopkins in various ways by chloral hydrate, only six were found whose livers showed definite pathologic changes. These changes consisted in the appearance of fat in the liver cells, the change being either restricted to the central zone or affecting the whole lobule evenly. None of the livers showed necrosis of the cells about the central veins, the lesion which is the most characteristic of chronic chloroform poisoning. In regard to the other twenty dogs, most of them showed a few fine fat droplets scattered through the lobules but not in sufficient number to be definitely abnormal. It could not be determined what occasioned the production of fatty changes after chloral hydrate. All except one of the animals which showed lesions were given the drug subcutaneously. The severity of the lesion seems to bear no relation to the amount administered or the depth of anesthesia. The nitrogen output of three dogs was increased during the chloral hydrate poisoning and returned afterward practically to normal. Two dogs in this series which died of acute chloral hydrate poisoning excreted less nitrogen after than before administration of the drug. One dog which was very severely poisoned but subsequently recovered showed diminished nitrogen output during the anesthesia, followed by an enormous increase during the after-period.

61. **Normal Human Blood Serum.**—Drawing a conclusion from experience with thirty-two cases of hemorrhagic conditions, treated by normal human blood serum, Welsh is convinced that this agent is a specific for this pathologic condition. In septic conditions normal human blood serum appears to have considerable value. Welch has injected four individuals having bacteremia, from the blood of whom the streptococcus was obtained by culture. Two of these individuals recovered and two died. Two cases of very grave peritonitis have also received these injections. The first, a postoperative case, on whom a panhysterectomy had been done, showed marked signs of acute peritonitis on the day following the operation. Beside high fever, rapid pulse, marked abdominal tenderness and distention, she had from the second day, uncontrollable vomiting. She was unable to take any nourishment whatever and was rapidly sinking. Injections of normal human blood serum in doses of 5 to 7 ounces were given daily. After the second dose was administered she showed decided improvement in that the vomiting ceased, she was able to take liquid by mouth, the temperature receded and the abdominal condition quickly cleared up. The second case, a girl nineteen years old, curetted after abortion, ran a high temperature, between 103 and 104, with rapid pulse, shallow rapid respirations, distended tender abdomen, flushed cheeks and dry mouth. This girl was considered in a hopeless condition when injections of human serum were begun. Over a period of five days the serum was administered to the amount of three hundred cubic centimeters. The serum caused a decided improvement and the patient returned slowly to her normal health.

62. **Delivery Through Perineum.**—Rongy's case was one of spontaneous delivery of a child through the perineum. No anomalies in the construction of the vagina and pelvic floor were noticed. The woman was in active labor having pains every five to seven minutes and apparently was expected to go through a normal and spontaneous delivery. After several hours the attending nurse noticed an unusual amount of bulging of the anterior wall of the rectum and the perineum. This was increased with each succeeding pain. Rongy on his arrival one-half hour later found the patient in very active labor, the head pressing on the pelvic floor, stretching the anterior wall of the rectum and the whole pelvic floor in front of it. As the head advanced the parts became more thinned out and it was evident that the parts would not withstand the strain and that the anterior wall of the rectum would be torn away. No mechanical manipulation to make the head extend in order to relieve the tension on the pelvic floor was of any avail, and rupture of the perineum at the junction of the rectum soon took place, the head presenting, and the child delivered itself through this artificial opening, leaving the vulvar orifice intact and a bridge of the perineum 1½ inch wide separating it from the newly created opening. The placenta was also delivered through the perineal opening.

Bulletin of American Academy of Medicine, Easton, Pa.

April, XIII, No. 2, pp. 55-123

68 *Conservation and Progress in Human Evolution. H. B. Ward, Urbana, Ill.
69 *Contagious Diseases in Schools. E. B. Hong and I. C. Hall, Pasadena, Cal.
70 Effect of Medical Missionary on Sociology of Orient. L. D. Bulkley, New York.
71 *Present Magnitude of Altruistic Medical Effort in Far Orient. C. McIntire, Easton, Pa.
72 Medical Uplift of Burma. E. S. Corson, Bridgeton, N. J.
73 The Caroline A. Ladd Hospital, Presbyterian Mission, Pyengyang, Korea. J. H. Wells, Pyengyang, Korea.
74 Medical Practice in China. F. W. Goddard, Shaohsing, China.
75 Necessity for Trained Workers. M. E. Carlton, Ming Chiange, China.
76 Western Medicine in South China. H. W. Boyd, Canton, China.

68, 69 and 71. Abstracted in THE JOURNAL, July 22, pp. 311 and 312.

New York Medical Journal

April 27, XCV, No. 17, pp. 833-912

77 *Correction of Lateral Curvature of Spine. E. G. Abbott, Portland, Me.
78 *Abbott's Method of Correcting Fixed Lateral Curvature. D. D. Ashley, New York.
79 Rotary Lateral Curvature; Report of Results Obtained. C. Ogilvy, New York.
80 Exaggerated Lordosis in Adult. J. J. Nutt, New York.
81 *Physical Exercises for Correction of Lumbar Lordosis. W. J. Schatz, Philadelphia.
82 American Orthopedic Association; Its Organization. N. M. Shaffer, New York.
83 Surgery for Cancer of Breast. E. S. Judd, Rochester, Minn.
84 Plea for Reform in University Education. E. Souchon, New Orleans.
85 Short Outline of Medical Career of Maitre Francois Rabelais. C. G. Cumston, Boston.
86 Intravenous Injections of Phenol in Tetanus. W. F. Bernart, Chicago.

77 and 78. **Correction of Lateral Curvature of Spine.**—The two fundamental principles underlying the correction of scoliosis according to Abbott are: First, overcorrection, for if motion is not established in all directions to the extreme of normal motion, the treatment is only palliative, and not curative. Second, fixation in the overcorrected position, until the parts are so thoroughly stretched and changed in their shape that the deformity will not return. He reports a large series of cases in which excellent results were obtained by his particular method of treatment, which is described in detail. It is said not to be a cure for all conditions and forms of scoliosis. It is especially applicable in the acquired forms, when not too rigid, severe and complicated by structural changes or bony ankylosis.

Abbott's conception according to Ashley is based on the theory of a rotating forward of the concave side, and that in correction the bodies must move to the concave side and backward; as the deformity was produced by flexion and side bending toward the convex side, the correction and overcorrection must take place in the same position of flexion and side bending to the other side.

To attain this effect, Abbott flexes the spine with pressure over the lower ribs, with side bending, arm of depressed side brought high up and forward, arm of convex side well down and backward. To facilitate holding the patient in this position of extreme flexion while he applies the plaster-of-Paris jacket, Abbott places the patient on the back in a hammock suspended on a frame. Ample felt pads, from three-eighths to one-half inch thick, are fitted over the angles of the ribs on the convex side and prominent ribs in front and the crests of the ilia. A large felt roll is placed over the concave side, to be removed through the large fenestra in the back when trimming the jacket. The efficiency of the technic depends on the use of bandages and weights to secure flexion and side bending, without the application of crushing force to the ribs.

The plaster-of-Paris jacket is applied, embracing the pelvis and extending about one and a half inch below the anterior superior spines. The plaster is carried high up under the arm of the concave side, and well down on the convex side, permitting the high shoulder to fall back and downward. The body in flexion, the jacket is made roomy in front over the upper part of the sterum, to relieve the elevated breasts, and permit the body to fall farther forward in flexion, still give high thoracic breathing space and close over the lower ribs to compel the flexed position. Usually four fenestras are cut out, the largest behind to permit farther flexion and free rotation of the concave side backward, and two in front, commencing at base of breasts and extending from 5 to 8 inches; these to adjust pressure pads. Another is generally made on the side of the convexity better to control any crushing or bending of the ribs, which is to be avoided. The jacket is made strong, especially at the sides and front, by reinforcement of plaster to permit the immediate removal of the large temporary pad over the concavity, and the cutting out of the fenestra. The right adjustment of the felt pads put in from this time, combined with the power of respiration, determines success.

81. **Physical Exercise for Lumbar Lordosis.**—The exercise referred to by Schatz is as follows: The performer lies on his back, the legs flexed on the thighs, which in turn are flexed on the pelvis, and the arms are placed at the sides, adducted slightly so as to give support during the performance. The movement to be executed consists in bringing the knees into the armpits, or as near to them as possible, and allowing them to return to the starting position. In order to make the abdominal muscles do all the work, the performers must not swing legs, but must endeavor to make the abdominal muscles pull the pubis directly upward toward the xiphoid

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appendix; observe that if the muscles are not sufficiently strong to do the work correctly otherwise, the leg swing is permissible during the first few periods of exercise. The best results are obtained if the performer makes special effort to emphasize the last stage of the upward pull. The leg should remain flexed on the thigh throughout the entire procedure so that gravity does not come into play by acting through the lengthened lever that would otherwise be made by the extended legs. The exercise is continued until the muscles are tired, after which a short rest follows; this alternation of work and rest is continued until the exercise has been executed from thirty-five to 100 times for one period. Increase in duration of the exercise must be brought about progressively. After correction has been brought about, the exercises must be continued over a sufficient time to overcome former tendencies and make the results permanent.

Albany Medical Annals, N. Y.

April, XXXIII, No. 4, pp. 191-252

87 How Shall the Mother Tell the Sex Story to Her Child? G. W. Geier, Rochester, N. Y.
88 Program for Sex Instruction. I. S. Wile, New York.
89 Relation of Obstetrician to Program of Sex Education. P. T. Harper, Albany, N. Y.

Chicago Medical Recorder

April 15, XXXIV, No. 4, pp. 175-240

90 Sanitary Conditions in Philippines on American Occupancy and Work of Board of Health. L. M. Maus, U. S. Army.
91 Chronic Gonorrhea and Mixed Infection; Their Location and Treatment. F. Kreisel, Chicago.
92 Value of Child Study. D. P. Macmillan, Chicago.

Buffalo Medical Journal, N. Y.

April, LXVII, No. 9, pp. 476-538

93 Law as It Relates to Physicians and Buffalo Health Department. F. E. Fronczak, Buffalo.
94 Results from Use of Dowd's Phosphatometer and Tonic. C. P. Smith, Buffalo.

Journal of Biological Chemistry, Baltimore

April, XI, No. 3, pp. 169-266

95 *Putrefaction Processes in Intestine of Man During Fasting and During Subsequent Periods of Low and High Protein Ingestion. C. P. Sherwin and P. B. Hawk, Urbana, Ill.
96 Refractive Indices of Solutions of Certain Proteins: Proteins of Ox-Serum. T. B. Robertson, San Francisco.
97 Quantitative Determination of Benzoic, Hippuric and Phenaceturic Acids in Urine. H. Steenbock, Madison.
98 Case of Pentosuria Presenting Unusual Features. J. H. Elliott and H. S. Raper, Toronto.
99 Brief Investigation on Estimation of Lecithin. R. C. Collinson, Wooster, Ohio.
100 Purins of Muscle. C. B. Bennett, San Francisco.
101 *Influence of Cocain on Metabolism, with Special Reference to Elimination of Lactic Acid. F. P. Underhill and C. L. Black, New Haven, Conn.
102 *Creatin in Urine of Children. O. Folin and W. Denis, Boston.
103 New Method for Determination of Hippuric Acid in Urine. O. Folin and F. F. Flanders, Boston.
104 Blue Color Reaction of Phosphotungstic Acid (?) with Uric Acid and Other Substances. O. Folin and A. B. Macallum, Boston.

95. Intestinal Putrefaction During Fasting.—The subject of the authors' experiment was a man weighing 76 kilos. Intestinal putrefaction as measured by the output of urinary indican was markedly decreased during the fasting interval. The seventh fasting day showed an indican excretion amounting to 13.7 mg. as against an output of 60.5 mg. for the second fasting day. During the post-fasting interval of low protein ingestion putrefaction was increased in a very pronounced manner, the indican values rising far above those obtained during the normal period preceding the fast. The average daily indican output was but slightly higher during the period of high protein ingestion than during the low protein period. It was demonstrated that intestinal putrefaction was 50 per cent. greater when but 5.23 grams of nitrogen was passed into the gastro-intestinal tract after the fast than it was when 21.86 grams of nitrogen was ingested before the fast. Data from this and previous experiments along similar lines seem to indicate that there is of necessity no uniform relationship between the urinary indican excretion and the output of bacteria in the feces, even when the diet of the subject is of the same general character. The indican value for the high protein period subsequent to the fast was approximately 60 per cent. higher than the indican value for the preliminary period, notwithstanding the fact that the ingested diet was identical in kind and quantity in the two instances. On the seventh day of fasting approximately 40 per cent. of the total quantity of ethereal-SO_3 excreted in the urine was in the form of indican-SO_3 whereas only about 10 per cent. was excreted in this form in the urine of the fourth fasting day.

101. Influence of Cocain on Metabolism.—In confirmation of previous investigation, it was found by Underhill and Black that cocain introduced subcutaneously into dogs causes a temporary but significant increase in body temperature. With daily doses of 10 mg. of cocain hydrochlorid per kilo of body weight for short periods of time no influence can be detected on nitrogenous metabolism nor on fat utilization. Fat utilization is slightly impaired and body weight is considerably decreased when daily injections of 15 mg. cocain are administered. When the dose of cocain is increased to 20 mg. per kilo body weight per day a distinct lowering of both nitrogen and fat utilization is noted. This may be accompanied by a slight negative nitrogen balance. Lactic acid excretion in the urine is markedly increased in well-fed dogs and rabbits as a result of cocain injection. In a starving condition the dog eliminates less lactic acid after cocain injections than is excreted by the normal well-fed animal. It is not unlikely that the increased lactic acid elimination after cocain injections is associated with increased muscular activity induced by the drug. The ammonia output apparently bears little relation to lactic acid elimination under the experimental conditions. Lactic acid and carbohydrate metabolism are presumably intimately associated although there are indications that lactic acid may at times arise from more than a single antecedent.

102. Creatin in Children's Urine.—The authors incline to the belief that the creatin in children's urine does not depend, as Rose suggests, on a peculiar carbohydrate metabolism but that it is due to an excessively high level of protein consumption (in proportion to mass of muscles in the body). The creatin output in response to creatin feeding depends very much on the level of protein metabolism maintained. Whether the creatin is taken with the food or whether it comes directly from the tissues, as in fevers (and possibly also in starvation), may be more or less immaterial in view of the fact ascertained by one of the authors that creatinin and creatin like urea and amino acids are promptly transported from the digestive tract to the blood and from the blood to the tissues.

Journal of Ophthalmology and Oto-Laryngology, Chicago

April, VI, No. 4, pp. 105-139

105 Treatment of Gonorrheal Conjunctivitis in Adult. J. S. Hosford and G. B. James, London.
106 Chronic Nasal Diphtheria. C. M. Miller, Richmond, Va.

Delaware State Medical Journal, Wilmington

April, III, No. 5, pp. 1-27

107 Acute Laryngitis. J. A. Ellegood, Wilmington.

Medical Record, New York

April 20, LXXXI, No. 16, pp. 743-788

108 Acute Endocarditis with Rupture of All Chorda Tendinæ of Anterior Curtain of Mitral Valve. L. F. Frissell, New York.
109 *Camphor and Pneumococci. A. Seibert, New York.
110 Geriatrics. I. L. Nascher, New York.
111 Free Postgraduate Medical Instruction. G. Mannheimer, New York.
112 Gonorrhea in Women. M. Glasgow, New York.
113 Movement for Internationalism in Medicine and Hygiene. K. M. Vogel, New York.

109. Camphor and Pneumococci.—In the cases of pneumococcic pneumonia cited by Seibert, camphor injections invariably reduced the toxemia gradually until practically normal conditions were reached three or four days after the first injection, while the alveolar exudate remained, to be absorbed later on. This phenomenon and the absence of a crisis were noticed in every case.

In twenty-one cases 12 c.c. of a 20 per cent. camphorated oil were injected every twelve hours in adults, and 6 c.c. in children (the youngest being four years of age), irrespective of the size and weight of the patient, the intensity of the toxemia, and the extent of the local process. In four of the next sixteen cases the limitations of this treatment were observed. A sudden rise of temperature in two patients on

the second and third days of treatment, respectively, proved to be due to pneumococcic nephritis, promptly subdued by appropriate doses of hexamethylenamin, while the camphor injections were continued and resulted in speedy recovery. In two cases of severe pleuropneumonia from the onset (aged thirteen and twenty-eight respectively) the camphor reduced the general toxemia markedly, but did not prevent the accumulation of pus in the pleura, necessitating rib resection in the one on the fourth, and in the other on the eighth day after the initial chill, pneumococci in pure culture being found in the exudate, and both patients recovering. The one death among the thirty-seven cases of pneumonia so treated occurred in a man 68 years of age, weighing 200 pounds, with fatty heart, attacked by pneumococcic invasion of both lower lobes, marked toxemia and copious bloody sputum. Although early camphor injections had the usual good effect on the sensorium, the temperature and the respiration, his flabby heart began to give out on the fifth day, resulting in fatal pulmonary edema on the sixth. During the last four years Seibert has made many hypodermic injections of 10 per cent. salicylic acid solutions in 20 per cent. camphor oil in rheumatics, and has observed the prompt destruction of meningococci in the blood of a two-year-old patient by a 3 per cent. salicylic acid solution in a 30 per cent. camphor oil, 5 cc. being injected every forty-eight hours.

Seibert's attempts to interfere in human and animal pneumococcic infections with camphor have established the following facts: (1) That 10 c.c. of a-30 per cent. camphorated oil (equal to 36 grains of pure camphor) injected hypodermically to 100 pounds of human body weight every 8 to 12 hours, do not produce symptoms of poisoning, in fact are harmless; (2) that much larger doses (to the body weight) in rabbits are equally well borne, and (3) that *these quantities of camphor materially assist in overcoming pneumococcic toxemia;* and (4) that the earlier this treatment is resorted to the better the results.

Southern California Practitioner, Los Angeles

April, XXVII, No. 4, pp. 147-202

114 Preliminary Survey of California Tuberculosis Statistics. W. F. Snow, Sacramento.
115 Early Diagnosis of Tuberculosis. J. A. Parks, La Mesa.
116 Nauheim Baths. E. A. Newton, Bad Nauheim, Germany.
117 Relationship of Adenoids and Enlarged Tonsils to Deformities of Dental Arches, Maxillary Bones and Adjacent Bony Structures. J. D. McCoy, Los Angeles.
118 Case of Advanced Pulmonary Tuberculosis. H. F. Boatman, Los Angeles.
119 Mercury; Its Discovery. H. Fracastor.

Western Medical Review, Omaha, Neb.

April, XVII, No. 4, pp. 159-234

120 Thrombosis of Lateral Sinus from Otitis Media. H. Gifford, Omaha.
121 Migraine; Its Etiology, Symptomatology and Treatment. J. M. Banister, Omaha.
122 Dissection of Buried Tonsil in Children. H. L. Arnold, Omaha.
123 Occult Blood in Stool. A. D. Dunn, Omaha.
124 Gonorrhea in Children. P. Findley, Omaha.
125 Bronchial Asthma. A. Sachs, Omaha.
126 Management of Toxemia of Pregnancy. A. B. Somers, Omaha.
127 Epidemic Cerebrospinal Meningitis. M. Langfeld, Omaha.
128 Rupture of Plantaris Tendon. R. R. Hollister, Omaha.
129 Diverticula of Esophagus. C. C. Allison, Omaha.
130 Enterostomy. J. P. Lord, Omaha.

April 27, LXXXI, No. 17, pp. 789-834

131 Observations of Wassermann's Experiments on Mouse Tumors. O. Kiliani, New York.
132 All Pulmonary Physical Signs Are Not Those of Tuberculosis. H. A. Hare, Philadelphia.
133 Athletic Superiority of Our New Stocks. C. E. Woodruff, U. S. Army.
134 Chemical Constitution and Physiologic Action. W. A. Jacobs, New York.
135 *Pellagra. M. M. Smith, Dallas, Tex.
136 Overwork and Fatigue in Relation to Nervous Prostration. E. L. Hunt, New York.
137 *Injection of Paraffin for Incontinence of Urine Following Trauma to Urethra. E. H. Eising, New York.
138 Pure Air by Diffusion. J. F. Lockwood, Kansas City, Mo.

135. **Pellagra.**—It is urged by Smith that pellagra be made a reportable disease, with a statute requiring all cases to be reported to the proper health officers, thus furnishing vital statistics and affording an opportunity for scientific investigators to ascertain the complete case-histories and such other information as may be desired, which will aid very materially in ascertaining the cause of the disease, its prevention and the most successful treatment. Further, an educational campaign should be waged by the national government, the respective state health departments where the disease exists, including the county and city health officers, for the education of the medical profession at large, so that they may be able to recognize the disease in its earliest stages and be prepared to administer the best possible treatment. Such educational work can be materially improved by well-arranged clinics through the various medical associations and schools and the presentation of suitable papers and their discussion in such organizations. In addition to these clinics, lectures should be held and wholesome literature for the people in general should be distributed so that the people may realize the value of healthy surroundings, the need of wholesome foods, the proper observance of rules of bathing, strict vigilance as to quality of corn preparations they eat, suitable screening for places of residence, and such other educational steps as will tend to better their condition, particularly of the poorer classes, of whom the disease exacts its greatest toll.

137. **Injection of Paraffin.**—Based on an experience of only two cases and from a citation of the literature, Eising suggests the submucous injection of paraffin as the method of first recourse giving the greatest probability of cure for incontinence of urine following trauma to the urethra.

New York State Journal of Medicine, New York

April, XII, No. 4, pp. 157-208

139 Value of Roentgenography in Diagnosis of Disturbances of Gastro-Intestinal Tract. A. MacFarlane and A. F. Holding, Albany.
140 Intratracheal Insufflation Anesthesia. W. C. Woolsey, Brooklyn.
141 Administration of Nitrous Oxid and Oxygen as Anesthetic. P. J. Flagg, Yonkers.
142 Balantidium Infection and Pernicious Anemia. C. G. R. Jennings, Elmira.
143 Diagnosis and Symptoms of Diseases of Liver. J. Meyers, Albany.
144 Dangers of Salvarsan. N. W. Wilson, Buffalo.
145 Bronchopneumonia in Children. H. A. Hoyt, Watertown.
146 Infant Feeding with Undiluted Cow's Milk. W. B. Hanbidge, Ogdensburg.
147 Bullet Wounds of Abdomen. C. G. Harker, Albany.
148 Case of Erythema Multiforme and Typhoid Occurring Simultaneously in a Previously Healthy Man. M. B. Downer, Woodstock.
149 John Hunter. E. R. McGuire, Buffalo.
150 Medical School Inspection. T. E. Bullard, Schuylerville.

Boston Medical and Surgical Journal

April 25, CLXVI, No. 17, pp. 615-650

151 *Care and Control of Alcoholic. A. Lambert, New York.
152 Conference on Diseases Among School Children, and Remedy. E. G. Otis, Boston.
153 Diseases of Mouth, Throat and Chest. R. C. Cabot, Boston.
154 Malnutrition. G. S. C. Badger, Boston.
155 Diseases of the Skin. C. M. Smith, Boston.
156 Orthopedic Defects and Rickets. J. E. Goldwait, Boston.
157 Nervous and Mental Disorders in Schools. A. W. Fairbanks, Boston.
158 Blood Transfusion for Hemorrhagic Disease of New-Born; Use of External Jugular Vein in Infants. B. Vincent, Boston.

151. **Care and Control of Alcoholic.**—There were 131 patients treated in Bellevue Hospital, New York, for the alcohol habit by the Lambert-Town formula. Eighteen months afterward Lambert endeavored to look up the records of these men; forty-three could not be found; two were dead, and one was insane. Of the eighty-five in whom we could judge accurately of the results, sixty-seven had reverted and eighteen had remained abstinent. That is, 78.8 per cent. had reverted and 21.2 per cent. had remained straight. That one could succeed in the ordinary alcoholic wards of Bellevue Hospital in one-fifth of the cases, Lambert says, is a far better result than one could expect from the usual methods of treatment. Among those who have been given this treatment in a private institution during the past two years, having voluntarily sought the treatment, the results have been much more encouraging. Among these cases the percentage is practically reversed. In 375 patients there have been 46, or 12.2 per cent. known relapses.

Journal of Medical Association of Georgia, Augusta

April, I, No. 9, pp. 313-342

159 Surgery of Large Intestines. A. Van der Veer, Albany, N. Y.
160 One Hundred and Five Emergency Laparotomies. E. M. Harbin, Rome.

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161 Significance of Leukocyte Count in Appendicitis and Allied Acute Surgical Conditions. C. H. Richardson, Macon.
162 Some Points Needing Emphasis in Treatment of Tuberculosis. J. H. Hamond, Lafayette.
163 Some Surgical Difficulties Encountered by a Country Practitioner. B. Williams, Folkston.
164 Bacilli Carriers and Their Relation to Public Health. A. R. Collins, Atlanta.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Medical Press and Circular, London

March 20, XCIII, No. 3802, pp. 291-313

1 Odontoma in Man Aged 62. J. Bland-Sutton.
2 Important Phases in Evolution of Man. A. Keith.
3 Operative Treatment of Conical Cornea. C. A. Worth.
4 *Hydropiginous Tuberculous Nephritis. L. Bernard.
5 Nervous Disorders and Neurologist in Relation to Profession and Public. T. A. Williams.

March 27, XCIII, No. 3803, pp. 314-342

6 Conditions Associated with Ocular Nerve Paralysis. J. Taylor.
7 Dangers of Salvarsan in Syphilitic Affections. P. Gaucher.
8 Hypochondriasis; Its Significance and Treatment. R. H. Cole.
9 Treatment of Surgical Tuberculosis by Dioradin. R. A. Stoney.

April 3, XCIII, No. 3804, pp. 343-366

10 Sarcoma of Kidney Treated by Eight Hours Roentgen-Ray Exposure and Subsequently by Radium Ionization. F. Hernaman-Johnson.
11 Cattle Trypanosomiasis and Early History of Sleeping Sickness. F. M. Sandwith.
12 Treatment of Syphilis of Nervous System and of Parasyphilitic Diseases. W. B. Warrington.
13 Fatal Case of Gonorrheal Septicemia. T. G. Moorhead.

4. Hydropiginous Tuberculous Nephritis.—Bernard is convinced that there is no pure amyloid degeneration of the kidneys in these cases, while there are frequently the lesions of diffuse nephritis. When we meet with amyloid changes they are, he says, invariably associated with other lesions, epithelial and interstitial, with predominance of the former. As to the pathogenesis of these alterations, they were formerly attributed to poisons secreted by the tubercle bacillus, but nowadays, after Jousset's and Bernard's researches they must be looked on as nephritic lesions due to the direct action of the bacillus. Inoculations made by Jousset gave positive results. These facts demonstrate that tuberculous nephritis is due to the action of the bacillus. By inoculating the tubercle bacillus in the arteries of dogs and rabbits, there are reproduced the identical lesions of hydropiginous nephritis; extensive epithelial degeneration conjunctivo-vascular reactions with diapedetic afflux. Ethero-bacilline, the poison secreted by the tubercle bacillus, which acts only at the very seat of the parasitic vegetation, causes the same epithelial and interstitial lesions, as we have been shown by other experiments. On the contrary, injections of tuberculin in the animal, like the methods of collodion bags applied to the tubercle bacillus, only yielded inconstant discrete renal lesions, and without individual character. Hydropiginous nephritis, then, is caused not by tuberculins, but by the direct local action of bacillus multiplying in the kidney. In all probability this special reaction of the kidney to the tubercle bacillus is the response to massive inoculation of bacilli conveyed in the blood-stream to the kidney, where they find an excellent culture medium. If this be the case it expresses the highest degree of tubercle contamination, while interstitial nephritis corresponds to minute inoculations of not very virulent bacilli, while, lastly, infiltrating tuberculosis of the organ is the consequence of direct or accidental inoculation.

Of all the varieties of renal tuberculosis the gravest is unquestionably hydropiginous nephritis, in that it is not amenable to treatment. Nevertheless, one can sometimes, says Bernard, delay its course, but it must be borne in mind that milk diet is not indicated, since the kidney is not permeable, and uremia is not to be apprehended. The patient must be regarded and treated as a tuberculous subject. His strength must be maintained by generous feeding, and in order to combat the edema the chlorids should be reduced or discarded altogether. Eggs should not be allowed. The alimentary pastes and farinaceous articles of food will constitute the bases of his diet. Counter-irritation over the kidneys often affords some relief, preferably by dry cupping. If diuresis be inadequate, theobromin is indicated along with salts of calcium.

Edinburgh Medical Journal

April, VIII, No. 4, pp. 289-384

14 *Treatment of Tuberculous Peritonitis in Adults; Thirty-One Cases. F. M. Caird.
15 Treatment of Simple Fractures. C. W. Cathcart.
16 Trauma as Factor in Disease. A. James.
17 *Tuberculous Infection in Infancy and Childhood as Revealed by Cutaneous Tuberculin Test. C. McNeil.
18 *Tylosis Palmaris Et Plantaris; Report of Three Cases. L. Thatcher.
19 Pipette for Collection of Discharges for Bacteriologic Examination. I. S. Stewart.

14. Treatment of Tuberculous Peritonitis.—Only thirty-one cases of tuberculous peritonitis in patients between 13 and 60 years of age were seen by Caird in the Edinburgh Royal Infirmary during a period of ten years. He excludes tabes mesenterica, tuberculous stricture of the intestine and early examples of tuberculous appendicitis and includes cases showing general invasion of the serous surfaces as the main feature, as also a few in which the fallopian tubes or ovaries were, in addition, markedly affected, and those in which a general peritoneal tuberculous infiltration seemed to have penetrated from the serous to the deeper layers of the intestinal wall. The majority of the patients had been treated in the medical department without much benefit, and so were referred to the surgical side.

Surgical treatment consisted in an exploratory mesial incision midway between the umbilicus and the symphysis pubis, or, as occasion seemed to demand, in the linea semilunaris or appendicular region. An attempt was made to find and remove any prominent focus, but no labored or prolonged search was ever regarded as advisable, and on few occasions were tuberculous tubes and ovaries removed or masses of infiltrated omentum. In such cases, or when the exudate was distinctly purulent, drainage was adopted for a short period. As a rule, the abdomen was at once closed after evacuating the fluid and freeing such adhesions as could readily be separated.

Twenty-eight patients recovered. There were three deaths, all among the exudative type. The dry forms, not generally regarded as favorable to surgical interference, all recovered. It is noteworthy that with the exception of the fatalities and a couple of patients in whom healing was not followed by marked relief, all the others received benefit from operation. Ten of the twenty-eight patients who left the hospital healed cannot be traced. Nine died at varying periods; eight are known to be alive and well, one two years after operation, one three years, one four years, four five years, one nine years. Caird says that it is only when medical means fail or appear to be of doubtful utility that surgical intervention is required.

17. Tuberculous Infection.—The tuberculin test was performed by McNeil in 541 cases in all, the ages of the patients ranging from a few weeks up to 15 years. A positive reaction was obtained in 44.5 per cent. of the cases.

18. Tylosis Palmaris et Plantaris.—The best results in treatment were got by Thatcher by complete rest, starch poultices, soaking in a strong solution of carbonate of soda, scraping off as much of the softened debris as possible and then applying 3 per cent. salicylic acid plaster. At times the following ointment was used instead:

B.		gm. or c.c.
Acidi salicylici	gr. xxx	2
Ichthyolis	ʒi or	4
Olei olivæ	m xxx	2
Lanolini	ʒi	30

Annals of Tropical Medicine and Parasitology, Liverpool

March 29, VI, No. 1, pp. 1-140

20 Transmission of Human Trypanosomes by Glossina Morsitans; Human Trypanosomes in Game. A. Kinghorn and W. Yorke.
21 Herpetomonas Pediculi, Parasite in Alimentary Tract of Pediculus Vestimenti, Human Body Louse. H. B. Fantham.

Lancet, London

April 13, I, No. 4624, pp. 969-1040

22 Modern Views on Significance of Skin Eruptions. H. G. Adamson.
23 *Study of Secondary Infections in Pulmonary Tuberculosis. A. C. Inman.
24 Cornea-Scleral Trephining. B. T. Lang.
25 *Treatment of Condylomata Acuminata. D. Watson.
26 Three Consecutive Cases of Carcinoma of Jejunum. E. T. Tatlow.

23. **Secondary Infections in Tuberculosis.**—In nearly every case of open tuberculosis of the lungs the tubercle bacillus is held by Lang to be the predominant infecting agent. The blood examinations made by him have shown that secondary infections do occur. In all resting, febrile cases there was evidence of such infection. Even in the ambulant afebrile group such infection could not be excluded. A consideration of the morbid anatomy of advanced tuberculosis, and of the uncontrolled auto-inoculations spontaneously occurring in such cases, precludes the hope of a successful issue from specific treatment directed against the secondary infections; the situation is more encouraging in afebrile cases.

25. **Treatment of Condylomata Acuminata.**—The treatment which Watson has found to be most simple, effective and free from objection is the application of lactic acid. The mode of employment depends on the condition present. In the male circumcision is performed when necessary, pedunculated warts may be removed with scissors, and pure lactic acid applied to the base after the bleeding has been controlled. Other growths are treated with a continuous 1 per cent. wet dressing or the occasional application of a strong solution. In the female, when there are several large masses, each portion is isolated and kept surrounded by strips of lint wet with a ½ to 1 per cent. solution. The base of these growths may in addition be touched at intervals of a few days with the pure acid. Smaller growths are painted with the undiluted acid or a strong solution, and when there is a large field of minute growths the wet dressing is employed. The dressings are changed as frequently as the amount of discharge necessitates, and at each change the parts are thoroughly bathed with an antiseptic, in the case of females a sitz bath being used. The largest masses wither and drop off, small growths are inhibited and cure results without the formation of any cicatrices and without pain. The only disadvantage Watson has encounted in the use of lactic acid is the occasional occurrence of a general erythema when the treatment is pushed too energetically. This erythema is of trifling significance and quickly subsides on the temporary withdrawal of the acid and the substitution of a zinc and calomel dusting powder or ointment. On this account, however, it may be necessary when large areas are involved to intermit the treatment for two days in each week, and to protect the surrounding healthy tissues with vaseline in order to discourage excessive absorption of the acid. As soon as the seats of gonorrheal infection, urethra, cervix, rectum, etc., can be reached, appropriate treatment is initiated, and this, combined with strict cleanliness, has an important influence in preventing the appearances of fresh growths.

British Medical Journal, London

April 13, I, No. 2675, pp. 817-872

27 Precise Relationship of Cystocele, Prolapse and Rectocele; Operations for Their Relief. W. E. Fothergill.
28 *Gastro-Enterostomy. J. C. Renton.
29 Retroversion of Uterus Treated by Gilliam's Round Ligament Ventrosuspension. F. Ivens.
30 Twin Monsters with Acute Hydramnios. A. E. Turnbull.
31 Rupture of Uterus with Expulsion of Fetus Into Abdominal Cavity. H. R. Andrews.
32 *Treatment of Certain Forms of Coccydynia. O. Beddard.
33 *Causation of Parenchymatous Nephritis. G. W. Watson.
34 Pronephrosis; Operation; Recovery. E. O. Bowen.
35 Acute Pyelonephritis Complicating Pregnancy. F. D. Crew.
36 *Foreign Bodies in Vermiform Appendix. S. Boyd.
37 Threadworms in Vermiform Appendix. C. Wilson.
38 *Foreign Bodies in Intestine. A. S. Hosford.
39 Observations on Infant Fed with Barley Water and Cow's Milk. R. C. Verley.
40 *Boracic Acid Poisoning. V. Harley.
41 Acute Epididymitis Produced by Muscular Strain. A. Edwards.

28. **Gastro-Enterostomy.**—Thirteen of Renton's last eighty-one patients were operated on for ruptured gastric ulcer. One patient died; the other twelve cases have been quite successful. The operation was done in sixty cases for pyloric stenosis, gastric ulcers with hemorrhage and duodenal ulcers with hemorrhage. Out of the sixty, two died, one from pneumonia, the other from exhaustion. Three operations were for malignant disease, two partial gastrectomies with gastro-enterostomy, the third a simple gastro-enterostomy. One of the gastrectomy cases done three years ago, the patient is still quite well; the other one died at the end of four months from secondary growths all over the inside of the abdomen, with ascites; the third case lived for six months. The atonic cases, four in number, were the most disappointing. Perseverance in careful dieting and other treatment generally, however, gives a satisfactory result. Ten years ago Renton operated for a ruptured gastric ulcer in the body of the stomach, from which the patient recovered. She was sent back to the hospital with severe hemorrhage, from which he feared she would die, but, aided by adrenalin and normal horse serum, she recovered sufficiently to enable him to perform a gastro-gastrostomy. She continues to be quite well, eighteen months after the operation. Renton recommends gastro-enterostomy as a safe and satisfactory operation.

32. **Treatment of Coccydynia.**—It seemed to Beddard as though much pressure on the coccyx could be avoided if the tubera ischii could be maintained on raised supports. He found that this could be effected by a simple contrivance made of fine longcloth shaped on the lines of a napkin provided with two hollow rubber rings to receive the tubera. The rubber rings are 1 inch in depth, 2½ inches in diameter, their contained circles being 1¼ inches in diameter. They are held within circular pockets, which close with snap fasteners, with their centers 4½ inches apart. The garment should accurately and closely fit the body, and be worn next the skin. It is kept in position by a broad silk elastic band passing round the waist, and a similar band passes across just above the pubes. The arrangement permits of the use of an ordinary diaper. The rubber rings do not cause noticeable projection when worn under ordinary clothing, as they take up a position below the gluteal folds when the patient is standing. Beddard has found decided relief from the severe pain of coccydynia has resulted.

33. **Parenchymatous Nephritis.**—Watson concludes that acute nephritis is not a very common disorder. It is usually due to the direct effect of some infectious fever, catarrh or septic process. The great majority of cases recover completely, therefore the prognosis is good. The diagnosis of acute nephritis (primary) can seldom be made with certainty during the acute attack, and therefore a prognosis cannot safely be given until after an interval of a few weeks at least.

36. **Foreign Bodies in Vermiform Appendix.**—Boyd reports a case of appendicitis in which he found a small piece of wood, about a third of an inch long and an eighth of an inch in the other two diameters in the appendix. It was irregularly shaped, but being somewhat macerated its points were not sharp. The color suggested that it had originally belonged to a cedar-wood pencil, but the boy, on being questioned afterward, denied that he was in the habit of biting his pencils. There were also two hairs about three-quarters of an inch long, the nature of which was confirmed by microscopic examination. There were also several thread-worms present. Nothing else was present except some soft fecal matter. No concretions had formed around the foreign bodies.

38. **Foreign Bodies in Intestine.**—Hosford's patient was a male lunatic aged 33, who complained of pain in the abdomen. He had not been sick. The abdomen was slightly distended and tender all over; it moved fairly well on respiration, was tympanitic, and nothing definite could be made out. Nothing was detected per rectum, and having excluded as far as possible all forms of external strangulated hernia, and finding no physical signs in his chest, he was ordered an enema and restricted to fluids. The time occupied in the passage of the following articles was twenty-four hours; fourteen pieces of wood, ranging in size between 3¼ in. by ⅝ in. and 1 in. by ⅛ in.; twelve pieces of stone, ranging in size between 2 in. by 1 in. and ¼ in. by ¼ in.; twenty pieces of cloth, ranging in size between 12 in. by 1 in. and 1 in. by 1 in.; ten pieces of cotton neckties, ranging in size between 13 in. by 1½ in. and 4½ in. by 1½ in.; forty pieces of blanket, ranging in size between 13 in. by 1½ in. and 2 in. by 1 in.; nineteen pieces of fustian and corduroy, ranging in size from 12 in. by 1 in. to 2½ in. by ½ in.; eight linen buttons; four brass buttons; five match stalks; one overcoat button; one piece of tape 3 in. long; five boot-laces 6 in. long; two pieces of linen shirt

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6 and 9 in. long, respectively, by 2½ in. wide; the bottom piece of a match-box; a sharp piece of the bowl of a clay pipe (½ in. square), besides several large pieces of coal, rolled-up paper, wool and seven long pieces of knotted handkerchiefs, etc.

Six days after the patient had been declared to be convalescent and was up and about taking ordinary food and apparently in a normal state of health, he was sent to bed with diarrhea. He had no temperature, but the abdomen was slightly distended and tender all over. He died sixteen days later. At the post-mortem examination there was marked chronic pelvic peritonitis. The lower portions of the intestines were absolutely matted together. There was marked congestion of the jejunum and ileum, and also of the large intestines; but there was no ulceration and, morevover, no perforation. On opening the intestines, the following is a list of some of the articles removed: Twenty pieces of linen, ranging in size from 11 in. by 3½ in. to 1 in. by 1½ in.; fourteen pieces of blanket, ranging in size from 4½ in. by 2½ in. to 2 in. by 1 in.; six pieces of wood, ranging in size from 3¾ in. by 1½ in. to 1½ in. by ½ in.; six pieces of neckties, ranging in size from 5 in. by 4 in. to 3 in. by 3¼ in.; fifty shirt and trouser buttons; seven match stalks; three large pieces of cinder; one long boot-lace; one overcoat button, and one piece of handkerchief 4 in. square, besides a quantity of rolled-up paper. The majority of the articles were found in the jejunum and ileum, and several of the pieces of blanket were firmly wound round pieces of wood and covered with fecal accumulation. From the first to the last there was never complete obstruction; there was no vomiting and no hemorrhage.

40. **Boracic Acid Poisoning.**—Harley formerly used boracic acid solutions for lavage of the bowel in cases of colitis, but, after having seen symptoms arise in at least three patients, decided it might not be such a harmless method as one would be inclined to believe. Although when used as an intestinal douche he has not found it to cause any serious symptoms, it has, apparently, frequently caused marked symptoms of toxemia. He believes it is probable that this poisoning, if in reality caused by boracic acid, is due to some idiosyncrasy, as one frequently has been carried out over a considerable period without any toxemia.

Journal of Obstetrics and Gynecology of the British Empire, London

February, XXI, No. 2, pp. 65-128

42 Osteomalacia: Broughton Pelvis in Museum of Royal College of Surgeons. A. Doran.
43 Moderately Contracted Pelvis and Induction of Labor. E. McDonald, New York.
44 Kezmarsky's Decapitating Ecraseur. B. Nadory.

Annales de l'Institut Pasteur, Paris

March, XXII, No. 3, pp. 161-240

45 Influence of Temperature on the Activity of Emulsine. G. Bertrand and A. Compton.
46 Phagocytosis as Factor in Immunity of Mice. (L'importance de la phagocytose dans l'immunite de la souris à l'égard de quelques flagellés.) P. Delanoe.
47 Antidysentery Serum. (Les agglutinines et les substances sensibilisatrices des sérums dysentériques.) T. Grygiewicz.
48 The Negative Phase in Vaccination of Young Rabbits Against Typhoid. (La "phase negative" de Wright dans la vaccination antityphique des jeunes lapins.) F. De Gasperi.

Annales de Médecine et Chirurgie Infantiles, Paris

April 1, XVI, No. 7, pp. 193-224

49 *Erythema with Malignant Syndrome in Infectious Diseases. V. Hutinel.
50 *Cirrhosis of the Liver in Child. (Cirrhose de Hanot chez un enfant. Infantilisme consécutif.) Pagliano and de Luna.

49. Abstracted in THE JOURNAL, April 20, p. 1236.

50. **Cirrhosis of the Liver in a Child.**—The liver affection developed very gradually, with enlargement of both the spleen and liver, slow fever and some jaundice, swollen lymph-nodes, tendency to hemorrhage and arrest of growth. The boy was 12 when the first symptoms developed and he has not grown during the eight years since, his appearance being still that of a boy of 12. The primary cause is a mystery as neither inherited syphilis, malaria nor alcohol can be incriminated. The young man now shows signs of tuberculosis, but it seems to be secondary.

Archives des Maladies de l'App. Digestif, Paris

March, VI, No. 3, pp. 121-180

51 Molecular Concentration of Fluids in the Stomach. (La concentration moléculaire des liquides gastriques et l'activité de dilution de l'estomac.) M. Loepers and J. Thinh.
52 Diagnosis of Cancer of Thoracic Duct. (Le diagnostic de l'oblitération cancéreuse du canal thoracique, est-il possible?) A. Priot.
53 Syphilis of the Pancreas. J. W. Salls.
54 Roentgenography of Stomach and Intestines. (3 ans de la Société de radiologie médicale de Paris au point de vue des maladies de l'appareil digestif.) R. Glénard.

Archives de Médecine des Enfants, Paris

April, XV, No. 4, pp. 241-320

55 *Curable Tuberculous Meningitis. (Des épisodes méningés tuberculeux curables.) H. Barbier and G. Gougelet.
56 Anasarca Without Albuminuria or Heart Disease in Child of 8 with Inherited Syphilitic Taint. Deléarde and Repellin.
57 Atypical Measles. (Epidémie de rougeole en 1905.) Fédon.
58 Rachitis with Multiple Deformities. (Rachitisme avec déformations excessives.) J. Comby.
59 *Medical Treatment of Strabismus. J. Comby.

55. **Curable Tuberculous Meningitis.**—Barbier and Gougelet refer by this term to certain transient brain symptoms, evidently of meningeal origin, observed in children suspected of tuberculosis. These meningeal episodes have been overlooked hitherto as a rule just because they have been transient, and hence their connection with actual tuberculous meningitis has not been suspected. They state that eight writers have reported cases of tuberculous meningitis with long periods of subsidence of symptoms. They have also found records of twenty-four cases in which the diagnosis was confirmed by lumbar puncture and inoculation of animals, and yet the patients recovered. In ten other cases, including one from their own experience, there were three successive episodes of tuberculous meningitis with intervals of apparent health. In six other cases there were two of these episodes before the fatal termination. In eight other personal cases of tuberculous meningitis a history of a period of similar symptoms some time before was learned. The meningeal episode may be manifested solely by zona, or there may be pain in regions innervated by certain peripheral nerves or other meningeal symptoms. If one is on the alert for them, these curable episodes can be detected. They impose special care in hygiene, warning against mental or physical overexertion and against dampness and too high altitudes and excitement of any kind. A return of the meningeal symptoms is generally the beginning of a speedy end.

59. **Medical Treatment of Squint in Children.**—Comby quotes with approval some recent works on this subject which emphasize the value of medical treatment alone for divergent strabismus; the convergent type can be influenced only by operative measures as a rule. Reeducation of binocular vision by exercising the eyes with the diploscope is an important aid to surgical treatment; it should precede the operative measures as well as follow them.

Bulletin de l'Académie de Médecine, Paris

March 26, LXXVI, No 13, pp. 261-288

60 *Decortication of the Lung. (Cas de décortication pulmonaire —opération de Delorme.) L. Picqué and Delorme.
61 *Virulence and Contagiousness of the Sweat in Tuberculosis. (Virulence et contagiosité de la sueur des tuberculeux.) A. Poncet and M. Piéry.

60. **Decortication of the Lung.**—Delorme is the originator of this method of treating the sequelæ of purulent pleurisy, and here reports a case described by Picqué and reviews the work of others in this line. Most of it has been done in America, he says, and he cites freely from Ferguson, Lund and Dowd, especially the latter's article in THE JOURNAL, 1909, liii, 1281. Delorme urges that the method should be tried on children more than has hitherto been the case, thus warding off the deformity in the spine so often observed in these cases. In the case described the envelop encapsulating the left lung was several centimeters thick, the cavity being small, as seen by roentgenoscopy. The moment that the lung was freed from its thick shell, it expanded immediately, protruding from the wound, showing the retention of its elasticity. The trouble in this case followed a double stab wound of the chest entailing purulent pleurisy, and the decortication was done three months and a half after the pleurisy had developed.

61. See Paris Letter in THE JOURNAL, April 20, p. 1211.

Journal de Chirurgie, Paris

March, VIII, No. 3, pp. 233-364

62 *Thymectomy. (De la valeur et des indications opératoires de la thymectomie dans l'hypertrophie du thymus.) E. Olivier.

62. **Thymectomy.**—Olivier declares that subtotal subcapsular thymectomy is a simple operation that any practitioner should be able to do, while it is the only treatment for serious disturbances from an enlarged thymus. There is no operative mortality provided that no attempt is made to drain and that the thymectomy is not preceded or followed by tracheotomy or removal of any septic organ. Neglect of one or more of these precautions was responsible for the fifteen deaths on record in the forty-two cases of thymectomy that have been published. The thymectomy itself was not responsible in any instance, but it put an end at once to the permanent suffocation in twenty-five out of twenty-eight cases; to paroxysmal suffocation in ten out of twelve, and to the stridor in twelve out of sixteen. In conclusion he lists twenty-three quite recent articles on the subject.

Journal de Medécine de Bordeaux

March 17, XXIV, No. 11, pp. 161-176

63 *Diabetes Insipidus of Syphilitic Origin. X. Arnozan.

March 24, No. 12, pp. 177-192

64 *Treatment of Old Talipes Equinus. (2 cas de pieds bots paralytiques anciens.) J. Gourdon.
65 Serum of Non-Syphilitic Pregnant Women Gives Positive Response to Simplified Wassermann Test. (Sur une particularité du sérum de femme enceinte, cause d'erreur dans le séro-diagnostic de la syphilis par les méthodes simplifiées.) G. Fleux and P. Mauriac.
66 Suppuration in Lacrimal Sac. (Des abcès lacrymaux sus-ligamenteux.) M. Aubaret.

March 31, No. 13, pp. 193-208

67 Successful Resection of Polycystic Kidney. (Néphrectomie partielle pour rein polykystique.) G. Chavannaz and Lefèvre.

63. **Diabetes Insipidus of Syphilitic Origin.**—Arnozan's patient had both malaria and syphilis, but the prompt improvement under mercurial treatment confirmed his assumption of its syphilitic nature. The benefit has not been stable to date; the polyuria returns when treatment is suspended. In the literature on the subject, both mercury and iodid are stated to have been effectual and it might be well to combine the two, he thinks. The local congestion induced by salvarsan, which is one of the factors in its efficiency, might have serious effects by affecting the medulla oblongata, which he assumes to be responsible for the diabetes insipidus in this case, so he has refrained on principle from the administration of salvarsan.

64. **Old Talipes Equinus.**—In Gourdon's two cases the deformity was the result of infantile paralysis in early childhood, but after thirty and ten years complete correction was obtained. Tenotomy of the Achilles tendon was followed by the Lorenz procedure to reduce the forward displacement of the astragalus, an assistant exerting strong traction downward with a strip of cloth while Gourdon raised the front part of the foot. The foot was then immobilized in a walking plaster cast for eight months or a year and conditions have been normal during the four years since. The muscles in both of these cases reacted to electric tests, although feebly. The paralysis consequently could not have been very severe, notwithstanding the serious deformity; it was probably maintained by the predominance of the antagonists. All of the deformity probably might have been avoided if the foot and leg at the time of the disease in childhood had been held in a correct position. He ascribes the good results of his treatment in large part to the long use of the plaster cast, immobilizing the foot in overcorrection. Whenever he has taken off the cast in such cases in three or four months, he has always had to apply it again.

Lyon Médical, Lyons

March 10, XLIV, No. 10, pp. 529-588

68 Artificial Pneumothorax in Treatment of Pulmonary Tuberculosis. M. Piéry. Commenced in No. 9.
69 *Direct Sunlight in Treatment of Laryngeal Tuberculosis. (Hélio-thérapie dans la tuberculose du larynx.) F. J. Collet.

March 24, No. 12, pp. 653-700

70 Spontaneous Partial Heart Block. (Du block partiel et toléré.) L. Gallavardin. Commenced in No. 11.
71 *Criminal Abortion. (Avortement.) Planchu.

69. **Direct Sunlight in Treatment of Laryngeal Tuberculosis.**—Collet has been one of the pioneers in this line and his success has been very encouraging. His first patient treated in this way in 1905 has been permanently cured for over six years to date. This patient was a man of 33 without fever or much cough, but with relative dulness over the right apex. He wore a broad black hat and black spectacles and sat facing the sun, projecting on the larynx the sunlight received on the mirror of the laryngoscope placed in the throat, supervising the reflection of the rays with a hand-glass. He kept this up at intervals during the day, amounting to a total of half an hour at first and later an hour daily. He had been combating the tuberculosis with the ordinary general measures for several months but the laryngeal process had continued a progressive course until arrested by the heliotherapy. In six weeks the improvement was marked and by the end of seven months there was scarcely a trace of the laryngeal affection. In a second case, two-hour exposures during the day were made with equally favorable outcome, and in a third case marked improvement was realized in a few weeks.

71. **Abortions.**—Planchu gives the statistics from three Lyons hospitals showing how the number of cases of abortion has tripled during the last six years and that the morbidity and mortality of abortions are increasing in the same ratio.

Presse Médicale, Paris

April 3, XX, No. 27, pp. 269-276

72 *Diabetic Acidosis and Coma. (Syndrome d'acidose et coma diabétique.) M. Labbé.
73 Mechanism of Action of Remedies for Asthma. (Mécanisme des médications anti-asthmatiques.) A. Martinet.
74 *The Wassermann Reaction in Diagnosis of Inherited Syphilis. E. Andronesco and F. Saratzeano.

72. **Acidosis and Diabetic Coma.**—Labbé insists on the importance of distinguishing between the groups of symptoms due to the excess of sugar in the blood and to the acidosis. The difference in the effect of large doses of sodium bicarbonate in acidosis and in coma confirm the difference in their causal factors. The acidosis, the result of intoxication with acetonic bodies, is characterized by somnolency, vertigo, dyspnea, vomiting or diarrhea, etc., but coma shows other symptoms, muscular relaxation, loss of consciousness and disturbances in respiration, circulation and temperature. When in the course of progressive acidosis coma comes on suddenly, it never gives the impression of being an aggravation but a superposed complication. The two are closely associated, but they may possibly be due to intoxication by a different mechanism. Many features of coma suggest intoxication from polypeptids. Labbé urges the necessity for standardizing methods for dosage of oxybutyric acid; the findings in different countries and clinics will not bear comparison on account of the different technics applied. He cites a few cases in which the acidosis was kept under control by sodium bicarbonate but coma suddenly developing was uninfluenced by it.

74. **Wassermann Reaction in Inherited Syphilis.**—This communication from Bucharest reports application of the test to twenty-two infants and thirteen mothers. The findings confirm the truth of Colle's law and show that the Wassermann reaction is the most reliable means at our disposal for detecting inherited syphilis in the absence of visible lesions. It was always found more pronounced in the infants than in the mothers with latent syphilis.

Semaine Médicale, Paris

April 17, XXXII, No. 16, pp. 181-192

75 Fibrous Stenosis of the Small Intestine. (Les sténoses fibreuses de l'intestin grêle.) F. Lejars.

Archiv für Kinderheilkunde, Stuttgart

LVII, Nos. 4-6, pp. 241-480. Last indexed Feb. 24, p. 594

76 New Public Children's Hospital. (Der Ausbau des städtischen Kaiser- und Kaiserin-Friedrich-Kinderkrankenhauses in Berlin.) A. Baginsky and the Architects.
77 *Epidemic Parotitis and Secondary Meningitis. (Zur Polymorphie der Parotitis epidemica mit bes. Berücksichtigung secundärer Meningitiden.) H. Zade.

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78 White versus Yellow Cod-Liver Oil in Rachitis. (Ist der weisse Lebertran bei der Behandlung der Rachitis dem gelben gleichwertig?) J. A. Schabad and R. F. Sorochowitsch.
79 Research on Blood Platelets. (Specifische Blutplättchen und die Theorie der directen reactiven Aufeinanderwirkung.) P. P. Emmert.
80 Amount of Food and Protein Required by Young Children. (Zum Nahrungsbedarf und Eiweissbedarf des Kindes jenseits des Säuglingsalters.) J. Stargardter.
81 Acute Osteomyelitis of the Upper Jaw in Three-Weeks Infant. H. Fliess.
82 Measures for Child Welfare in Russia. (Der gegenwärtige Stand der Frage über die Kindersterblichkeit in Russland und deren Bekämpfung.) W. Hubert.

77. **Meningitis Secondary to Mumps.**—Zade reports a case of mumps in which the symptoms at first indicated appendicitis accompanied by sore throat and tonsil enlargement. The pains in the iliac fossa were intense and the boy of 12 became delirious. By the second day the temperature was 104 F. and the right neck and face swelled, the appearance by the third day first suggesting the true diagnosis of epidemic parotitis. Symptoms of meningitis followed, but the condition began to improve the eighth day and the patient was soon apparently completely restored. As the local symptoms of the parotitis subsided, the meningitic symptoms became more pronounced. The pulse became abnormally slow almost from the first. Another child in the same family had a typical attack of mumps soon after. Zade reviews the cases of secondary meningitis following epidemic parotitis on record, five of the nineteen terminating fatally. He also reviews the various complications liable to follow mumps, citing records of severe nephritis, vulvovaginitis, cystitis, ptyalism, endocarditis and pericarditis, conjunctivitis, keratitis, retinitis and neuritis, giving his authorities for each. He also mentions articular rheumatism in this connection, Catrin having found in the joint effusion the same diplococcus which he and Laveran had found in the puncture fluid of the diseased parotid gland, and had been accepted by them as the causal germ of mumps. Comby has also reported ostitis and osteomyelitis as a complication of mumps. The skin may also be affected, and there may be respiratory disturbances, even edema of the glottis. Gastro-intestinal complications are not rare but generally pass over harmlessly. Comby and Woodwart have reported loss of hearing and sight. Aphasia and persisting paralysis have been reported by others, but secondary meningitis is the only complication liable to prove rapidly fatal.

Deutsche medizinische Wochenschrift, Berlin

March 28, XXXVIII, No. 13, pp. 585-632

83 *Laryngeal Tuberculosis. (Behandlung der Kehlkopftuberkulose.) G. Killian.
84 Rosenbach's Tuberculin in Surgical Tuberculosis. (Erfahrungen über die Anwendung des Tuberkulin Rosenbach bei chirurgischen Tuberkulosen.) F. J. Rosenbach. Commenced in No. 12.
85 Present Status of Diagnosis of Tuberculosis. (Der gegenwärtige Stand der Tuberkulosediagnostik.) O. Roepke. Commenced in No. 11.
86 Traumatic Appendicitis. (Zur Frage der traumatischen Appendicitis.) E. Sonnenburg.
87 Tincture of Iodin Catgut. (Ueber Jodtinktur Katgut.) W. Hoffmann and F. Budde.
88 *Prolapse of the Rectum. (Behandlung des Mastdarmvorfalles.) B. Heile.
89 *Simple Method for Determining Uric Acid in the Blood and in Other Colloid Fluids. (Einfache Methode zum Nachweis von Harnsäure im Blut und andern kolloiden Flüssigkeiten.) F. Gudzent and E. Apolant.
90 Dentition. R. Flachs.
91 *Results of Orthopedic Treatment of Epidemic Poliomyelitis. (Erfolge der orthopädischen Behandlung der spinalen Kinderlähmung.) E. Klose.
92 Improved Stain for Diphtheria Bacilli. (Ergänzung der Mitteilung über die einzeitige Doppelfärbungsmethode der Diphtheriestäbchen.) M. Raskin.

83. **Laryngeal Tuberculosis.**—Killian remarks that few affections require so much persevering care as this, and that the outcome depends mainly on the condition of the lungs and other organs. If the kidneys or intestines are diseased or there is a history of old syphilis or the patient is diabetic, there is not much chance of a cure. Local treatment with insufflation of a powder like iodoform or application of lactic acid may have to be supplemented by operative measures. These patients do not bear tracheotomy well, and Killian has lately devised what he calls the "floating" technic for laryngoscopy and laryngeal operations, *Schwebelaryngoskopie* (described in abstract 69, p. 1404). This technic permits a much better vew of the larynx and enables it to be thoroughly curetted as is possible otherwise only by access through a tracheotomy.

88. **Treatment of Rectal Prolapse.**—In severe cases in women past the child-bearing age, Heile reenforces the floor of the pelvis by suturing the uterine cervix directly to the anterior wall of the rectum, drawing up the cervix to a position at a right angle to its natural position, and drawing the fundus horizontally across the pelvis and down through an opening in the upper part of the anterior wall of the vagina, where it is held with a couple of sutures. The reflection of the peritoneum down into the pouch of Douglas is first resected. The simple technic is illustrated as it was applied in two cases, two years ago, permanently curing the patients of all tendency to prolapse. The only incisions are the one through the posterior wall of the vagina into the pouch of Douglas and the one in the anterior wall down to which the fundus is drawn.

89. **Test for Uric Acid in the Body Fluids.**—Gudzent's reasearch has established that uric acid in the blood is always in the form of a monosodium urate and that it can be isolated by dialyzing the blood of other fluids being examined. Two years of experience have confirmed the value of this method which requires only about 20 c.c. of blood and six hours of time. The blood is drawn into a condom which is suspended in a dialyzing vial containing 40 c.c. of distilled water. The level of the blood must be a few mm. above the level of the water. After two hours the water is let out into a dish below, and another 40 c.c is poured in and let out in the same way after another two hours, and the same repeated once more. The 120 c.c. thus accumulated in the dish below is evaporated on the water bath and the dry residue treated with murexid. In case there is uric acid present, parts of the residue stain a reddish purple. On addition of soda or potassium solution the tint changes to a reddish blue or violet. The test applied to 200 gouty patients showed the presence of the monosodium urate in nearly saturation concentration (8.3 mg. monosodium urate in 100 c.c. of blood serum). When the test was applied to control the effects of radium treatment of gout, the findings were always about the same as before or else they showed total absence of the monosodium urate—there was never any gradual decline.

91. **Orthopedic Treatment of Epidemic Poliomyelitis.**—Klose urges that orthopedic treatment should begin early, during the stage of repair, not waiting for irreparable contractures to become installed. Operative measures later are much facilitated when splints are applied early and the limbs bandaged to ward off contractures. He gives illustrations and summaries of five severe cases in which the patients were restored to active life by induced ankylosis of the knees. Tendon transplantation has not fulfilled its promise in these cases, and Klose prefers the shorter method of arthrodesis by nailing the parts in position.

Medizinische Klinik, Berlin

March 31, VIII, No. 13, pp. 513-552 and Supplement

93 Treatment of Appendicitis. (Die chirurgische Behandlung der eitrigen Peritonitis bei Appendicitis.) D. Papovac
94 *Differentiation of Acute Leukemia and Sepsis.) (Zur Differentialdiagnose zwischen akuter Leukämie und Sepsis, mit bes. Berücksichtigung der "Sepsis bei Verkümmerung des Granulocytensystems.") H. Sternberg.
95 Indications and Technic for Resection of the Septum. (Die submuköse Septum-Resektion.) C. O. v. Eicken.
96 The Wassermann Reaction with Salvarsan Circulating in the Blood. (Die Wassermannsche Reaktion bei im Blute kreisendem Salvarsan.) F. v. Gutfeld.
97 Winter Rest of Plants. (Ueber die Winterruhe unserer Pflanzen insbes. der Holzgewächse.) W. Wangerin.
98 *Operative Treatment of Simple Fractures. (Blutige Behandlung der subkutanen Knochenbrüche.) F. Steinmann.

94. **Acute Leukemia or Sepsis.**—In the first of Stursberg's two cases everything indicated streptococcus sepsis except the blood findings—these spoke for leukemia, and necropsy confirmed the existence of lymphatic leukemia which had probably preceded the sepsis. A second case had the same features with the difference that the proportion of lymphocytes was abnormally small, while in the first case their number was much above normal. In the second case nothing was found at necropsy to confirm the diagnosis of leukemia; the trouble was evidently solely a streptococcus sepsis.

98. Operative Treatment of Simple Fractures.—Steinmann gives forty-six illustrations of the various methods for maintaining the stumps in a good position when extension and other bloodless measures fail to ensure perfect consolidation in a good attitude. With nail extension it is almost always possible to reduce and hold the fracture, but in the rare cases in which this fails, it may be necessary to hold the parts together with removable pegs or bolts or a suture may be required. The fractures most liable to require this are those of the apophysis, fractures of the spongiosa part of the bone, of the lower end of the humerus in children, fracture of the olecranon and of the upper end of the olecranon. For these fractures one or two nails driven temporarily into the bone or a suture may be advisable. In the leg, fracture of the patella or calcaneum is the one usually involved. Operative treatment is indicated for the fracture of long bones with displacement to the side which it is impossible to correct without some such measure. All lengthwise dislocation, he says, can be readily corrected by his method of nail extension. The nails are driven horizontally into the bone from each side with a curved strip of metal fastened to the outer end of each nail, a weight being suspended from the crossed ends of the metal strips below. The advantages claimed for this extension are its extreme effectiveness, the comparative freedom from pain and discomfort, and the unhindered access to the regions for early massage, exercising and dressing the parts. By graduating the size of the semicircle formed by the crossed strips, the direction of the traction can be altered. He adds that this nail extension scarcely comes under the heading of operative measures as no wound is made except where the nails are driven into the bone at a point always remote from the fracture. The danger of infection on this account is much less than when nails and pegs are driven directly into the fractured stumps. (Compare with abstract 75, May 4, 1912.)

Münchener medizinische Wochenschrift

March 26, LIX, No. 13, pp. 681-736

99 *Reflex Influencing of Muscles in Limbs by Movements of the Head. (Ueber die Beziehungen des Kopfes zu den Gliedern.) R. Magnus.
100 Application to Leprosy of Lessons Learned from Study of Tuberculosis. (Neue immunobiologische und klinische Tuberkulosestudien mit Berücksichtigung der Lepra.) H. Much.
101 Colorimetric Determination of Sugar and Indican in the Urine and of Iron in the Blood. V. (Beiträge zu den kolorimetrischen Bestimmungsmethoden des Traubenzuckers und Indikans im Harne sowie des Eisens im Blute.) W. Autenrieth and A. Funk. Concluded in No. 14.
102 Substances Analogous to Epinephrin in the Serum. (Zur Frage des Serumgehaltes an adrenalinähnlichen Substanzen.) F. Kahn.
103 Suppurative Peritonitis. (Die allgemeine eitrige Peritonitis und Behandlung mit bes. Berücksichtigung der Appendizitis.) P. Tschmarke.
104 *Roentgenoscopic Diagnosis of Gastric Ulcer. (Zur Röntgendiagnose des Magengeschwürs.) F. Eisler.
105 *Roentgen-Ray Castration for Hypertrophy of the Prostate. (Zur Kasuistik der Hodenbestrahlung bei Prostatahypertrophie.) O. Ehrmann.
106 Reply to Criticism of Hormonal. (Zur Kenntnis der Hormonalwirkung.) G. Zoelzer.
107 Conditions of Nourishment of Munich School Children. (Ueber den Ernährungszustand von Münchner Volksschülern.) K. Oppenheimer and W. Landauer.
108 Chronic Inflammation of the Cecum. (Coecum mobile und chronische Appendizitis.) F. Crämer. Commenced in No. 12.

99. Reflex Influencing of Muscles in Limbs by Movements of the Head.—Magnus reports experiments which showed tonic cramps in the limbs when the head of the animal was moved around as it lay on the board after removal of the brain. The phenomena observed suggest that there are two sets of reflexes involved. One set of reflexes is the work of the labyrinth as it is influenced by changes in the position of the head in regard to space. The other reflexes are induced by changes in the position of the head in regard to the body; that is, they are neck reflexes. These same labyrinth and neck reflexes may be observed in certain clinical pathologic conditions. In five infants with such severe brain trouble, hydrocephalus, suppurative meningitis or intracranial hemorrhage, as to suspend all action of the brain and hence all volitional movements, it was found possible to induce tonic spasms in the arms by altering the position of the head, thus eliciting the neck reflexes. The labyrinth reflexes can be elicited in normal very young infants by turning the head; in the normal infants the reflex action is transient but in children with brain affections practically excluding cerebration the tonic extension is durable. He shows in an illustration the peculiar stiffening and twisting of the arms and legs from this reflex action in a nine-days' old babe with bilateral obstetric hemorrhage in the region of the lenticular nucleus. This occurred even when the seated infant was merely made to lie down, bringing the head from a vertical (vertex up) to a horizontal position (nose up). The reflex action is all of a tonic character and it throws light on the tonicity of the muscles in general. Magnus urges others to study these phenomena as occasion arises; he is now conducting research on the phenomena after removal of the labyrinth.

104. Roentgenoscopic Diagnosis of Gastric Ulcer.—Eisler writes from the Roentgen institute at Vienna in charge of Kienböck to call attention to certain minor differential points, among them the fact that very small ulcers or erosions do not cause any appreciable spastic contraction of the stomach wall when the stomach is not empty. Detection of the spastic contracture is possible only in the fasting stomach in these cases. The duodenum should be empty also. He has frequently observed that the motor function of the stomach behaves differently at times according as the duodenum is full or empty, and consequently this point should be borne in mind in examining the stomach for suspected ulceration. He has his patients take a single swallow of the bismuth suspension; as this passes into the stomach a transverse constriction in the greater curvature may become apparent, which vanishes at once when the patient drinks more of the suspension or pressure is applied to the stomach region. The phenomenon is the same as the functional hour-glass stomach only that the spasm subsides as more fluid is taken into the stomach. He has found further that the tender point in the fasting stomach corresponds always to the point located by the spasm. Tenderness when the stomach is not empty is liable to be vague and misleading; it is far more reliable when tested on the fasting stomach.

105. Roentgen-Ray Castration for Hypertrophy of the Prostate.—Ehrmann exposed the testicles to Roentgen rays in the case reported; the patient was a man nearly 60 with signs of soft enlargement of the prostate, hematuria and recurring attacks of uremic symptoms. A single ten-minute exposure was made with two-thirds erythema dose, equivalent to 3 H Holzknecht degrees on the Sabouraud-Noiré color scale. Improvement became apparent about the ninth day, the residual urine growing less in amount and by the end of the second week none was left. There was no further hematuria and the general health has materially improved; the testicles are much smaller but soft, and the prostate, although still large, feels softer. The benefit realized has been durable to date, nearly three months since the exposure, and no by-effects of any kind have been observed. The same treatment in another case, in which the prostate was of a tough fibrous structure, failed to induce any change for the better.

Wiener klinische Wochenschrift, Vienna

March 28, XXV, No. 13, pp. 475-510

109 *Cutaneous Luetin Reaction in Syphilis. (Zur Intrakutanreaktion bei Syphilis.) G. Nobl and K. Fluss.
110 Sedatives and Oxytocics in Obstetrical Practice. (Wehenschmerzlindernde und wehenanregende Mittel in der Geburtshilfe.) I. Richter.
111 *Modern Treatment of Emphysema. L. Hofbauer.
112 *Simple Operative Treatment of Esophageal Diverticulum. (Vorschlag eines einfachen Operationsverfahrens zur Behandlung Oesophagusdivertikels.) H. H. Schmid.
113 Paratyphoid Osteomyelitis. (Fall von Osteomyelitis, hervorgerufen durch Paratyphusbazillen.) N. Spassokukozky.

109. Cutaneous Reaction in Syphilis.—Nobl and Fluss have applied Noguchi's luetin in 107 cases of syphilis. (This diagnostic reaction was described in THE JOURNAL, April 20, 1912, p. 1163 and Dec. 23, 1911, p. 2103). A colored plate is given to show the different stages of a typical reaction after intradermal application of the luetin, which is an emulsion or extract of pure cultures of the *Spirochæta pallida*. The control lesion, begins to fade away by the third or fourth day while the specific lesion keeps angry and may increase in diameter for a week or two. It begins to retrogress by the tenth or twentieth

day, but a hard lump is still perceptible by the end of the month. The findings are tabulated according to the reaction; there was no reaction in four of the seven patients with the primary form of syphilis and in twenty-six of the sixty-two in the secondary stage; in four of the sixteen in a late latent stage, and in one of the three patients with inherited syphilis. The test seems to have the greatest diagnostic value in the later phases of the disease.

111. **Treatment of Emphysema.**—Hofbauer describes the physiologic factors which he utilizes in treatment of emphysema, especially the work of the diaphragm as it is sucked up by prolonged expiration, this upward movement of the diaphragm being reenforced and supplemented by drawing in the abdominal walls as the act of expiration draws to a close—not before. The patient is taught not to deepen or prolong inspiration but merely his expiration, bringing all the elastic factors into play that he can control. With ordinary breathing the muscles engaged in inspiration are worked more than those concerned in expiration, and this he has to combat, striving to train the latter to more effectual functioning. The patient must breathe exclusively through his nose and make a humming noise during the expiration. This latter ensures his keeping his mouth shut and also trains his ear to watch over his prolonged expiration not only when he is doing these exercises but when he is walking or at work. Hofbauer uses a contrivance which presses in the abdominal wall— an air-filled cushion under an inelastic band. The cushion is inflated to exert pressure just at the end of expiration; it forces up the relaxed diaphragm and the immediate relief is so marked that the patient realizes the advantages from drawing or forcing the diaphragm up as high as possible during expiration, and he learns to utilize his own forces for this. The circulation is promoted at the same time by these breathing exercises to such an extent that the general health benefits materially.

112. **Treatment of Esophageal Diverticulum.**—Schmid says that all trouble from a diverticulum ceases if it is pulled out straight and the lower end drawn up high and fastened, so that the pocket formed by the diverticulum is upside down, with its mouth at the lowest point. This answers the same purpose as excision of the diverticulum, while it is a much less serious operation. He has never applied the method in practice, but he thinks that the chances are that the diverticulum would shrivel up in time when treated in this way.

Zentralblatt für Chirurgie, Leipsic

March 30, XXXIX, No. 13, pp. 417-456

114 Improved Durable Esmarch Bandage. (Ein haltbarer Ersatz der Esmarch'schen Gummibinde.) A. Henle.
115 Case of Primary Liver Calculus. (Ein primärer Leberstein.) F. Neugebauer.

Zentralblatt für Gynäkologie, Leipsic

March 30, XXXVI, No. 13, pp. 385-416

116 *Resection of Promontory as Means to Enlarge Contracted Pelvis. (Verfahren zur Heilung enger Becken.) H. Rotter.
117 Bacteriologic Control During Operations. (Ueber bakteriologische Kontrolluntersuchungen vor und bei gynäkologischen Operationen.) A. Bauereisen.
118 Shortening the Broad Ligaments Back of the Uterus to Correct Retroflexion. (Neue Operation der Retroflexio uteri.) L. Heusner.

116. **Enlargement of Pelvis by Resection of Promontory.**—Rotter proposes to facilitate childbirth, in case of a rachitic contracted pelvis, by chipping off the anterior part of the promontory. The sacrum and vertebra forming the promontory are so thick that a piece 2 cm. in thickness can be split off in front without impairing the solidity of the spine and without the least risk. He has done this operation a number of times on the cadaver and found it remarkably simple and effectual for the purpose designed. He obtains access to the promontory through a median laparotomy, the pelvis raised. The intestines are readily pushed out of the way, the parietal peritoneum incised and the sacral artery and vein ligated. He does the resection with a slightly concave chisel 3 or 3.5 cm. wide, applied to the body of the lowest lumbar vertebra, and splits off a single flat ovoid piece comprising part of the lumbar vertebra and the upper part of the sacral vertebra and intervertebral ligament, the latter forming the largest part of the segment split off. The soft parts are then sutured over the raw bone surface and the abdominal incision is closed. If this operation proves as simple and feasible as it appears from his experience to date, he says, it will do away with all other methods of managing contracted pelvis, all of which to date merely temporarily remove the obstacle to birth but do not permanently enlarge the pelvis, as this does. The operation adds from 1.5 to 2 cm. to the true conjugate, and he thinks it should be considered in all such cases in which this diameter is not less than 7 cm.

Zentralblatt für innere Medizin, Leipsic

March 30, XXXIII, No. 13, pp. 293-316

119 Technic for Therapeutic Application of Radium Emanation. (Radiuminhalations- und Trinkmethode.) J. Kemen.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 24, XXXIII, No. 36, pp. 369-384

120 Medicolegal Definition of "Permanent Invalidism" and "Incurable Disease." (Sulla diagnosi differenziale tra "indebolimento permanente" e "malattia probabilmente o certamente insanabile" a scopo medico-forense.) L. Borri.
121 Keloid Acne of the Neck. (Studio istologico dell'acne cheloidiena della nuca.) A. Nardi.

Policlinico, Rome

March 24, XIX, No. 13, pp. 445-480

122 Organotherapy for Disturbances from Abnormal Thyroid and Adrenal Secretion. (La cura opoterapica nelle sindromi da alterata secrezione tiroidea e surrenale.) T. Pontano. Commenced in No. 12.
123 *Chorea of Genital Origin. L. M. Bossi.

March 31, No. 14, pp. 481-516

124 Abortive and "Walking" Small-Pox. (Il vaiuolo abortivo e il vaiuolo ambulatorio.) G. Pecori.
125 Medical Journalism of the World. (Il giornalismo medico in Italia e all'Estero.) M. Luzzatto. Commenced in No. 13.

123. **Chorea of Genital Origin.**—Bossi declares that the genital origin of the chorea in the case he reports was established beyond question by its prompt subsidence as soon as proper measures to cure the endometritis and correct the retroversion of the uterus had been applied. The patient has since passed through a normal pregnancy in the best of health.

Riforma Medica, Naples

March 16, XXVIII, No. 11, pp. 281-308

126 *Alcohol Sterilization of the Peritoneum. (Disinfezione peritoneale coll'alcool.) I. Tansini.
127 Action of Salvarsan on the Heart and Vessels. (L'azione del Salvarsan sull'apparato cardio-vascolare.) G. Burzi.
128 The Round Ligament in Femoral Hernia. (Il legamento rotondo nelle ernie crurali.) M. Dardanelli.

March 23, No. 12, 309-336

129 *Complement-Fixation Test in Diagnosis of Echinococcus Disease. (La deviazione del complemento nell'echinococcosi fatta anche col sistema emolitico di L. Ferrannini.) D. De Sandro.
130 Experimental Research on Elimination and Toxic Power of Salvarsan. (Sulla eliminazione e sul potere tossico del diossidiamidoarsenobenzolo.) A. Saccone.

126. **Alcohol Disinfection of the Peritoneum.**—Tansini has not been able to find in the literature any record of alcohol having been used on an extensive scale to cleanse and disinfect the peritoneum after contamination with fecal matters. He reports its use in two cases in which entero-anastomosis had been done for tuberculous stenosis or the entire cecum resected for a local tuberculous process. The patients were 17 and 29 years old, and recovery was remarkably prompt and uneventful. He washed with 95 per cent. alcohol the loops of intestine that had been soiled by escaping feces during the operation, and swabbed with the alcohol the soiled regions of the peritoneum and also the lines of the sutures.

129. **Complement-Fixation Test for Echinococcus Disease.**—De Sandro has been applying the complement-fixation test to the diagnosis of echinococcus disease, by two different technics, the rabbit-sheep technic of Weinberg and Ferrannini's eel-rabbit technic. He gives the details of a number of suspected cases and compares his findings with those that have been reported by others. Both technics were found reliable, the only difference being that a negative response is less noticeable in the eel-rabbit test than with the Weinberg technic, but this slight drawback is far outweighed by the superior simplicity and rapidity of the former, and even this drawback can be eliminated by using an 8 per cent. instead of a 5 per

per cent. suspension of the rabbit blood-corpuscles. The reaction is complete in a few hours instead of the days required for the Weinberg test. De Sandro is now studying the application of the eel-rabbit technic to the Wassermann test for syphilis. (This simplified eel-rabbit technic was described in THE JOURNAL March 18, 1911, page 860.)

Brazil Medico, Rio de Janeiro

March 8, XXVI, No. 10, pp. 91-100

131 Uremia. L. Freire.
132 Perinephritis. B. do Amaral.
133 Cystic Kidney. (Kystos do rim.) B. do Amaral.

Semana Medica, Buenos Aires

February 22, XIX, No. 8, pp. 345-396

134 Amino-Acids in the Cerebrospinal Fluid and in Effusions. M. R. Castex.
135 *Propaganda Against Alcohol. (El alcoholismo.) V. Delfino.

135. **Alcoholism.**—Delfino gives a comprehensive historical summary of alcoholism through the ages and the various systems and methods for control of the liquor traffic in vogue in different lands at present. He emphasizes anew that limitation of the number of dramshops is the most important forward movement in the campaign against alcoholism.

Hospitalstidende, Copenhagen

March 27, LV, No. 13, pp. 357-388

136 Dysentery in Denmark; Sixty-Four Cases Reported in 1911. (Oversigt over Dysenteri. Epidemiologiske og bakteriologiske Undersøgelser af Dysenteritilfælde i Danmark 1911.) W. Leschly and C. Sonne.

Hygiea, Stockholm

March, LXXIV, No. 3, pp. 257-384

137 *Scarlatinal Otitis Media. (Om otitis media perforativa vid scarlatina.) G. Holmgren. To be continued.
138 *Influenzal Meningitis and Pneumonia. (Ytterligare bidrag till frågan om influensans etiologi och patologi.) I. Jundell.
139 Opsonins in Human Milk and Cow's Milk. (Kvinnomjölkens och komjölkens opsoniner.) I. Jundell.
140 Ossifying Myositis After Dislocation of the Elbow. (Ossificerande myosit i musculus brachialis anticus efter armbågsdistorsion med anledning of 2 fall.) G. Nilson.

137. **Otitis Media in Scarlet Fever.**—Holmgren's article is not concluded in this number but this instalment gives an oversight of 9,590 cases of scarlet fever during the last ten years, and the occurrence of otitis media in over 21 per cent. of the total. This material is arranged in twenty-five tables as considered from as many different standpoints, with other tables comparing similar data from various hospitals at home and abroad. The majority of cases of scarlatinal otitis were in children under 5; the frequency declined with increasing age. The otitis was most prevalent in the winter months. The total mortality averaged 5.33 per cent; that is, 511; 184 of the children who died had otitis media.

138. **Influenzal Meningitis.**—Jundell states that influenza seems to be endemic at Stockholm, hundreds of cases being reported there each year, but during the last seven years he found true influenza bacilli only in about 10 per cent. of the cases in which the diagnosis of influenza seemed certain and in which he had made a bacteriologic examination. In January, 1911, a healthy 2-year-old babe was taken suddenly with vomiting one afternoon but there was no cough or nasal discharge; the next morning the child was found unconscious and died in two hours. Necropsy disclosed evidences of fulminating meningitis. Two months later another infant developed the same syndrome, with convulsions and died in scarcely more than twenty-four hours with similar necropsy findings. Bacteriologic examination disclosed innumerable influenza bacilli in pure cultures in the meninges. About the same time he had a case of pneumonia in an infant and the influenza bacillus was cultivated from the sputum; the child recovered. In cultivating the influenza bacillus the culture medium should be free from hemoglobin. In 1904 he had found records in the literature of thirteen cases of meningitis apparently the work of influenza bacilli; eight of the children were from 10 weeks to 2 years old. Since then five more cases have been published, he says, including the one mentioned above, all in infants from 7 to 15 months old and a child of 4—showing that influenzal meningitis is almost exclusively a children's disease.

Norsk Magazin for Lægevidenskaben, Christiania

April, LXXIII, No. 4, pp. 449-616

141 *Experiences with a Salt-Poor Diet. (Erfaringer med koksaltfattig diæt.) O. Hanssen.
142 *Diabetes Insipidus. O. Hanssen.
143 *Cancer of the Rectum. (Resultaterne efter radikaloperation for maligne tumores i rectum.) N. Paus.
144 Dermatitis with Pigmentation After Salvarsan. (Melanodermi efter Salvarsaninjektion.) K. Grøn.
145 Three Cases of Rupture of the Bladder. (Tre tilfælder av blærebrok.) R. Ingebrigtsen.
146 Incarcerated Obturator Hernia. (Et tilfælde av Hernia obturatoria incarcerata.) R. Ingebrigsten.

141. **Experiences with a Salt-Poor Diet.**—Hanssen gives the details of considerable experience in this line. In three cases of diabetes insipidus the effect was marked in two; the third patient did not keep to the ordered diet. The benefit was striking also in a young man with epilepsy and in several cases of ascites. In a very severe case of the latter, besides abstention from salt, the patient took on alternate days 5 gm. of magnesium sulphate or sodium sulphate and all the ascites disappeared in a month but a fatal hemorrhage from the esophagus occurred a month later. It is possible that the changes in the circulation from the absorption and elimination of such large amounts of ascitic fluid may have favored the development of hemorrhage. Hanssen mentions that Finsen said that he did not feel so well when all his ascites had been drawn or absorbed as when there was a certain amount of fluid in the peritoneal cavity. In a second case Hanssen supplemented the salt-poor diet with cream of tartar or calomel, and the ascites retrogressed to a remarkable extent. In a case of nephritis in a man of 33 several weeks elapsed before the benefit from the salt-poor diet became marked although the patient began to lose weight from the first. In another case of nephritic edema no benefit was detected, but prompt improvement followed in a case of idiopathic or intestinal hydrops, free from any tendency to albuminuria. The patient had chronic diarrhea and extensive edema; this combination is rare in adults. Under thirteen days of the salt-poor diet the weight dropped by several pounds, but some were regained as the ordinary diet was resumed. Hanssen discusses the technic of the salt-poor diet in the hospital and the home with minute detail.

142. **Diabetes Insipidus.**—Hanssen reports five cases in women and two in men; a tuberculous taint was evident in four of the seven and one had acromegaly. The findings tabulated show that a diet poor in salt and albumin is able to reduce the diuresis whether the kidneys have lost or retained their power of concentration.

143. **Cancer of the Rectum.**—Paus states that a radical operation was performed in 68.6 per cent. of the twenty-nine patients with rectal cancer in Strøm's service 1897-1910. Five of this group of twenty did not survive for longer than three years afterward, but 42.2 per cent. have been well since the operation, the interval ranging from nearly four to eleven years. In this group of long survivals, the operation had been by way of the perineum in one case, with resection of the coccyx in two; in four the access had been by resection of the sacrum and in one by the vaginal route. This 42.2 per cent. of permanent cures is thus higher than the statistics from nine other large clinics which he cites, only from 14.8 to 37.5 per cent. of these patients being free from recurrence after three years. In the cases of recurrence, the survivals averaged two and a third years. Ten pages are devoted to tabulation of the minute details of the twenty operative cases.

Ugeskrift for Læger, Copenhagen

March 28, LXXIV, No. 13, pp. 497-526

147 Secondary Disease of the Labyrinth with Suppurative Middle Ear Disease; Twenty-One Cases. (Kliniske Bidrag til de under Forløbet af Mellemøresuppurationer optrædende sekundære Labyrintaffektioner.) C. Heliskov.

Books Received

JOURNAL Announcements, Knocks and Boosts, Books Received and changes in the Public Service will be found in the advertising section, commencing on the second page following reading matter.

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